

1988

# The development and testing of an optical scanner-based system of classroom data analysis

Thomas G. Wicks III  
*Iowa State University*

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**The development and testing of an optical scanner-based system  
of classroom data analysis**

**Wicks, Thomas G., III, Ph.D.**

**Iowa State University, 1988**

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The development and testing of an optical scanner-based  
system of classroom data analysis

by

Thomas G. Wicks, III

A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of the  
Requirements for the Degree of  
DOCTOR OF PHILOSOPHY

Department: Professional Studies in Education  
Major: Education (Educational Administration)

Approved:

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Iowa State University  
Ames, Iowa

1988



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## CHAPTER I. INTRODUCTION

The skills needed to effectively observe a teaching episode, analyze the information gathered, and conduct a feedback conference with that teacher are rapidly becoming basic administrative tools for principals across the nation. This national trend was clearly recognized several years ago when Stow and Sweeney (1981) indicated that teacher performance evaluation was becoming more of a school district's focus as "...the essential building block of accountability." Supervision experts also agree that "evaluation should be participatory, diagnostic, cooperative, and should be based on a mutual commitment to change and growth" (Ness, 1980).

The recent public demand for accountability is very clear and historically unlike any other school reform movement in the United States (A Nation at Risk, 1983; Action for Excellence, 1983; Making the Grade: Report of the Twentieth Century Fund Task Force on Federal Elementary and Secondary Education Policy, 1983). Accountability in this context calls for accurate performance evaluation. Effective classroom observation is the primary measure of effective teacher performance and is the foundation of improved school performance (Evertson and Holley, 1983; McGreal, 1983). Sweeney and Manatt (1984) state that "what we need is a reliable and accurate method for identifying teachers who are

not performing up to standard and a systematic process for helping them improve."

The question of "should teacher evaluation, per se, take place" is generally given an affirmative answer in all school systems and by most educators. However, the means and methods of classroom data capture are varied in design, methodology, and clarity. Research clearly indicates that written data (via script taping, timelining, anecdotal notes, etc.), for the most part, are the most effective way of obtaining information during classroom observations (Goldhammer, Cogan, and Anderson, 1973; Acheson and Gall, 1980; Hunter, 1983; Good and Brophy, 1984). Written data are particularly beneficial when support is needed during feedback conferences for clarification in determining specific points of quality or evidence of substandard performance.

A number of investigators have experimented with observation data in written form (Semones, 1987). Much has been done at Iowa State University in terms of developing methods of teacher observation in collecting and interpreting data, as well as principal/teacher conferencing techniques (Edwards, 1985; Manatt, 1985; Manatt and Stow, 1986). Mirrors for Behavior III, An Anthology of Observation Instruments (Simon and Boyer, 1970) provides a rich source of observational techniques containing 99 systems classified into seven major categories. In the classroom setting three groups



of techniques are identified: one group is concerned with the pupil only, another with the teacher only, and a third that focuses on the teacher and pupil interactions. The latter, teacher and pupil interactions, is best typified by Flanders' (Flanders, 1970; Simon and Boyer, 1970) system of interaction-analysis.

The present investigation will use a "category" technique (supplemented by a special manual and training to increase accuracy of data capture) and microcomputer technology to store and retrieve the information in an attempt to reduce the clerical labor involved in teacher performance evaluation.

Principals and researchers across the nation have recognized the need to improve their ability to accurately record teacher's classroom performance (Acheson, 1982). Several leading authorities also concur that a need exists for training principals in the proper procedures of classroom observation and how to effectively use data capturing techniques (Eckard and McElhinney, 1977; Gudridge, 1980; Calwelti, 1982).

The purpose of a classroom observation instrument is to provide a means in which an observer can record specific behaviors that occur within the classroom for valid and reliable analysis at a later time. Observation data in the past have often been weak and ineffective. However, in Stallings' opinion "...it is necessary and possible to raise

the level of observational data so that it becomes a precision tool in evaluating instructional processes" (Stallings and Giesen, 1977). Common characteristics of most observational instruments are their ease of use and effective implementation after a minimal amount of training and practice. Generally, most systems can be effectively implemented after eight to fifteen hours of instruction (Horton, Gill, and Soar, 1986). However, the effectiveness of any observation is directly related to the appropriateness of the instrument and the capabilities of the observer to record, classify, and analyze the information.

In recent years a number of school organizations and, in some cases, entire states have switched to computer-based teacher performance systems (Allen, 1986; Manatt et al., 1986). Twenty-seven states had mandated teacher evaluation systems for career ladder purposed by the spring of 1986 (Allen, 1986). This massive data task encouraged the use of micro- and mainframe computers to keep track of teachers' performance rating and advancement on the career ladders.

The present investigation will use a rating system approach supported by a selective verbatim technique (Acheson, 1981). In that way, the evaluator will have more complete documentation of what happened in the classroom (in the form of a timeline) and will also have the rating response placed in a document scanner so that observation judgments are

immediately filed in a microcomputer storage system. It also facilitates computer data processing district-wide rather than relying on manual files maintained in each school principal's office.

#### Statement of the Problem

The purpose of this study is to develop a data gathering technique which has all the advantages of verbatim data capture coupled with the ease of data input, storage, and analysis by microcomputer coupled with an optical, mark-scanning machine. The product of this dissertation will relate to Computer Assisted Teacher Evaluation/Supervision (CATE/S), a software package, distributed by the Iowa State University Research Foundation (Manatt et al., 1986) which can be used with the IBM AT/XT, the Apple IIe, or the MacIntosh.

The problem for this study will be to develop and test a comprehensive list of teacher behavior descriptors to be used as a resource in interpreting holistic data capture during a classroom observation and to develop a means for encoding all necessary data describing salient teachers' and students' classroom behaviors in a format suitable for optical scanner input to a microcomputer. Such descriptors will be limited to behaviors identified as effective teaching behaviors by previous research. "Effective" means contributing to improved student learner outcomes. To test the usefulness of the new technique, repeated comparisons of evaluator trainees'

reliability in summarizing classroom observation videotapes will be made.

As the materials and techniques are refined, several training groups will be asked to view videotaped classroom teaching, make a written timeline (Manatt, 1988), and then mark a scanform containing the behavior indicators. Marking will require making judgments about both the presence and quality of the selected teacher behaviors. Trainees' responses will be used as an indicator of instrument reliability, i.e., standard deviations will be computed to indicate consistency across raters.

#### Purpose of the Study

Several models and other instruction frameworks of learning of effective instruction have been accepted nationally. This study will combine models and frameworks of learning into an acceptable format that would generically define effective classroom instruction in observable terms. After several days of training, increases, if any, in rating reliability would be determined for each item on the evaluation instrument. Thus, the purpose of this study is to create an observation system which would include:

1. An observation sheet that is based upon the state of the art in teacher performance appraisals.
2. Rapid feedback for teachers observed in the form of an immediate timeline copy using self-carbon paper.

3. An optical scanner sheet to serve both teacher and principal needs.
4. A scanner sheet compatible for the Sentry 3000 scanner input programmed with Pascal for the IBM, XT, or AT computers and the Apple IIe or MacIntosh.
5. Summative reports made from repeated formative observations.
6. Paperware compatible with CATE/S (Computer Assisted Teacher Evaluation/Supervision), a teacher evaluation system that is microcomputer based and uses scanforms disseminated by NCS, National Computer Service Company of Bloomington, Minnesota.

#### Objective of the Study

1. To develop a list of teacher competencies based on a review of the literature.
2. To develop a performance rating scale which relates to each of the competencies.
3. To develop the teacher observation summary instrument to be compatible with the Sentry 3000 optical scanner.
4. To train subjects through inservice provided by Professor Richard P. Manatt, Iowa State University.
5. To test the system using approximately 100 subjects, who are evaluating video-based teaching simulations.

6. To validate trainees' ratings by comparing their results to those of an "expert jury."

#### Research Questions

A series of questions to be answered will provide direction for this developmental study.

1. What are the most typical behaviors exhibited by a teacher under observation by a supervisor while teaching subjects offered in elementary and secondary school?
2. How do these behaviors relate to research on effective teaching?
3. How do these possible behaviors relate to contemporary models of effective teaching?
4. What is a proper definition of each behavior?
5. How can teacher evaluators most effectively be taught these descriptors?
6. What existing videotapes would be best for testing the scanform observation document?
7. How can the proposed observation system be tested experimentally for validity and interrater reliability?
8. What statistics could be used as a measure of observer reliability?

9. What teacher/evaluator training groups could be used for developmental steps in the creation of the system?
10. What questions should be asked of trainers to determine methods for improving the instrument?
11. What prototype and final format should be used for a scanform?
12. What programming will be necessary to use this observation document CATE/S?

#### Basic Assumptions

The following assumptions are inherent in this developmental study:

1. That a rater will assess videotaped instruction sessions in the same manner as he/she would an actually observed instructional lesson.
2. That teacher performance can be described in terms of effective teaching behaviors.
3. That teacher performance can be measured in terms of competencies and behaviors described.
4. That teachers' competencies and behaviors can be described adequately in an observation document to permit the rater to record valid judgments.
5. That raters will be able to make knowledgeable assessments of teacher performance following observations.

### Delimitations or Scope of Investigation

This investigation will be limited to the following teacher performance evaluation activities:

1. Classroom observation of teaching behavior.
2. Only those behaviors specified in two or more effective teaching studies will be used.
3. Only behaviors which can be portrayed on videotaped classroom scenes will be used.
4. Behavior will be classified in the following ways:
  - a. not observed appropriate.
  - b. not observed inappropriate.
  - c. present unacceptable.
  - d. present acceptable.
5. Field test subjects will be limited to teacher evaluators seeking training by SIM (School Improvement Model) research team in the school year 1986-87.

### Human Subject Release

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected. The following statement was to be read to each participant:

Today you will participate in training to improve your classroom observation skills. Because the data collected during training will compare your previous data gathering



skills with your skills after having practiced the new data gathering technique, you have a right to refuse to participate in the pre- and posttesting. Your decision to participate in this training is greatly appreciated as most educators want an improved technique to gather data as they observe in classrooms. If you are willing to take part in this undertaking please turn in your materials at the close of the exercise.

Submitting the materials will be construed as a modified consent to participate.

If you do not choose to participate, simply retain your materials at the end of the exercise.

### Definition of Terms

Anecdotal notes - Recording, nonjudgmentally, observable actions or behaviors of the teacher and students with pen and paper.

Classroom observation - A period of time that a teacher, while teaching, is being visited by an individual attempting to record as much information as possible about what has taken place.

Computer-based teacher performance system - The computer serves as an information storage center after a teacher has been observed and the information has been coded and processed.

Data capture - The means by which information about a teaching episode which has been observed is recorded for later analysis by the observer.

Effective teacher performance - Positive teacher behavior that enhances the likelihood of promoting student learning and/or feeling of self-worth.

Expert jury - A panel of knowledgeable individuals who are experienced in teacher evaluation.

Feedback conference - A conference between teacher and observer in which observed information about that teaching episode is shared with that teacher.

Holistic data capture - A means of attempting to recover as much information about what occurred in the classroom as possible and recording it with pad and pen, i.e., the entire teaching act.

Observation data - Information obtained during a teaching episode that was actually observed and recorded with pad and pen at that time.

Optical, mark-scanning machine - A machine that records pencil marks made in a prescribed manner for the purpose of storing data into the computer.

Optical scanner sheet - Paper, in a particular printed format, to be used for interpreting coded data marks (usually made by pencil) by the optical, mark-scanning machine for storage into a computer's memory bank.

Performance rating scale - A means of recording the degree to which a behavior item meets the established criteria.

Scanform - See optical scanner sheet.

Script taping - The process of capturing as many spoken words as possible with pen and paper by an observer during a teaching episode (verbatim).

Selective narrative technique - The process of capturing key comments made by the teacher and students by an observer during teaching (selective verbatim).

Teacher competencies - See effective teacher performance.

Teacher observation summary instrument - The form on which a teacher evaluator summarizes the information obtained through previous evaluation observation and conferences during a school year.

Timelining - A method of recording with pad and pen, what has been said and done during a teaching episode with frequent notations of the time that has lapsed.

Verbatim data capture - See script taping.

## CHAPTER II. REVIEW OF LITERATURE

This search is concerned primarily with the need for, history and background of teacher evaluation, as well as various models of effective instruction that are presently available to assist in the determination of effective, observable teacher behaviors for the systematic approach of classroom data capture.

## Need

There is a profound need for administrators to become competent in the collection and analysis of classroom data capture. According to Kester, "Evaluation is a central issue in the conduct of educational practice" (Kester, 1981). In order to provide teachers with insights as to what happened in the classroom, all begins with information that is, and is perceived to be, both reliable and valid.

The issue of teacher evaluation is an important national concern. It is quite clear that competent instructors are the crux of quality education and that qualified evaluators are charged with validating that teachers are meeting state and school district standards. According to Allen's study (Allen, 1986), seventeen states have initiated initial actions in the development of career ladders mandated by their state legislature; five other states have involved various educational groups in the decision-making process, and four

states developed their plan through their state departments of education. The following open-faced table lists the states by their motivating force behind the effective teacher movement:

<u>Legislature</u>	<u>Multi-group</u>	<u>Dept. of Education</u>
Arizona	California	Alabama
Arkansas	Missouri	Washington
Colorado	North Carolina	West Virginia
Delaware	South Carolina	Wisconsin
Florida	Utah	
Georgia		
Idaho		
Indiana		
Kentucky		
Maine		
Maryland		
Mississippi		
New Jersey		
South Dakota		
Tennessee		
Texas		

It is very evident from the number of states involved that teacher evaluation is one of the nation's top priorities in the movement towards improving education.

Stalling stresses the importance that the evaluation instrument, whether selected or developed, describe the total event.

In order to better understand the classroom process, it is necessary to have a record of the environment, the materials, the activities of the teacher and children, and the interaction that occur as they participate in the activities (Stallings, 1977).

No summative evaluation can be more accurate than the original formative data that have been captured through skilled observation. An evaluator must be able to assay,

"This is what I saw," and make competent judgments as to whether or not it was effective.

The perception of what is an effective teacher has gone through a gradual but steady evolutionary change process. The teacher's personality or mannerisms was the primary focus of the thirties. A survey of students, for example, concluded their identifiable distinguishing characteristics of an outstanding teacher as follows (Frank, 1934):

1. Makes greater demands of students,
2. Has more teaching skill,
3. Has more knowledge of subject matter, and
4. Has better discipline.

During the 1930s a popular tool for determining effective teachers was a variety of teacher rating scales. John Dewey's influence was also a major catalyst and promoter for change in education. A climate of experimentation prevailed; new and different approaches were encouraged. Both teachers and supervisors were a part of this innovative movement. Scientific supervision was apparent and supported by the spirit of inquiry (McNeil, 1982). This was a time when the personality of the teacher was the central focus and not the effective interactions with the student.

In the 1950s, research studies then began another gradual change by investigating instructional methods (Medley, 1979). A typical study would involve comparing student gain scores with various instructional methods. Students tended to be the major focus of these studies rather than effective teacher

behaviors. Inconclusive and contradictory results were frequently the end product of these studies.

In the 1960s, Flanders began a new approach termed "Interaction Analysis" (Flanders, 1960). The interaction between the teacher and the students was now becoming the central investigative issue. Process-product research was now more prevalent. The "Handbook of Research on Teaching," published by Gage, set the stage for many other volumes of research to follow.

Clinical Supervision (Goldhammer, 1969) became the next catalyst in the evolution of recognizing and developing effective teachers. Working with Anderson and Cogan at Harvard, he proposed a five-step process for supervision:

1. Preobservation conference
2. Observation
3. Analysis and strategy
4. Postobservation
5. Postconference analysis.

Cogan elaborated the theory after Goldhammer's death in a book of the same title (Cogan, 1972).

The literature clearly points to the need for improved teacher performance evaluation. While each of the components of the cycle are needed, e.g., comprehension, lesson analysis, summative evaluation, and report writing, the most important need is to improve the recording of information during classroom observation because all the other steps depend on the accuracy of these data.

### Models of Effective Instruction and Other Frameworks of Learning

The following will be a review of teaching models that have been identified. From this review, the different models will be examined for commonalities to provide a basis for the development of an observation instrument. This research, coupled with the expertise of an expert jury, will provide the basis in the development of the instrument.

Good and Grows developed Guidelines for Mathematics Instruction based upon research at the University of Missouri. Five main categories summarize the main instructional behaviors (Good and Grows, 1979):

#### Summary of Key Instructional Behaviors:

Daily Review (first eight minutes except Mondays)

- a) Review the concepts and skills associated with the homework.
- b) Collect and deal with homework assignments.
- c) Ask several mental computation exercises.

Development (about 20 minutes)

- a) Briefly focus on prerequisite skills and concepts.
- b) Focus on meaning and promoting students' understanding by using lively explanations, demonstrations, process explanations, illustrations, and so forth.
- c) Assess student comprehension
  - 1) using process-product questions (active interaction)
  - 2) using controlled practice.
- d) Repeat and elaborate on the meaning portion as necessary.

Seatwork (about 15 minutes)

- a) Provide uninterrupted successful practice.
- b) Maintain momentum--keep the ball rolling--get everyone involved, then sustain involvement.



- c) Alert students to the fact that their work will be checked at the end of the period.
- d) Promote accountability--check the student's work.

#### Homework Assignment

- a) Should be assigned on a regular basis at the end of each math except Fridays.
- b) Should involve about 15 minutes of work to be done at home.
- c) Should include one or two review questions.

#### Special Reviews

- a) Weekly review (maintenance)
  - 1) Conduct during the first 20 minutes each Monday.
  - 2) Focus on skills and concepts covered during the previous week.
- b) Monthly review (maintenance)
  - 1) Conduct every fourth Monday.
  - 2) Focus on skills and concepts covered since last monthly review.

It should be noted that this model emphasizes more whole-class instruction and frequency of review. Less time is allocated for seatwork and homework.

Barak Rosenshine, a researcher at the University of Illinois at Urbana-Champaign, reviewed several significant studies and developed a list of instruction "functions." He has intended that these functions serve as a guide rather than being fixed or unchangeable (Rosenhine, 1983):

- 1. Daily review, checking previous day's work, and reteaching (if necessary):
  - Checking homework.
  - Reteaching areas where there were student errors.
- 2. Presenting new content/skills:
  - Provide overview.
  - Proceed in small steps (if necessary), but at a rapid pace.
  - If necessary, give detailed or redundant instructions and explanations.

New skills are phased in while old skills are being mastered.

3. Initial student practice:
  - High frequency of questions and overt student practice (from teacher and materials).
  - Prompts are provided during initial learning (when appropriate).
  - All students have a chance to respond and receive feedback.
  - Teacher checks for understanding by evaluating student responses.
  - Continue practice until students are firm.
  - Success rate of 80% or higher during initial learning.
4. Feedback and correctives (and recycling of instruction, if necessary):
  - Feedback to students, particularly when they are correct but hesitant.
  - Students' errors provide feedback to the teacher that corrections and/or reteaching is necessary.
  - Corrections by simplifying question, giving clues, explaining or reviewing steps, or reteaching last steps.
  - When necessary, reteach using smaller steps.
5. Independent practice so that students are firm and automatic:
  - Seatwork.
  - Utilization and automaticity (practice to overlearning).
  - Need for procedure to ensure student engagement during seatwork (i.e., teacher or aide monitoring).
  - 95% correct or higher.
6. Weekly and monthly reviews:
  - Reteaching, if necessary.

The Teacher Expectation and Student Achievement (TESA) (Kerman, Kimball, and Martin, 1980) program has gained national prominence in this decade. Sam Kerman and Mary Martin, working at the Los Angeles County Education Office, found certain significant behaviors that can be attributed to

high gain teachers. They discovered three "strands" related to students' desired feelings:

1. Response Opportunities - I am going to be given opportunities in class to be successful.
2. Feedback - I am going to be informal of my degrees of success by a teacher who wants me to do well.
3. Personal Regard - I am in a class with a teacher who cares about me and respects me as a person.

Within these three strands they identified fifteen (15) effective teaching behaviors. The behaviors are observable by the following interactions:

1. Equitable Distribution - Distributes response opportunities equitably.
2. Affirm/Correct - Affirms or corrects student's performance.
3. Proximity - Moves within arm's reach of student.
4. Individual Help - Gives student individual assistance.
5. Praise - Praises student's learning performance.
6. Courtesy - Expresses courtesy.
7. Latency - Allows time for responding.
8. Reasons for Praise - Gives reasons for praising student's learning performance.
9. Personal Interest and Compliments - Takes personal interest in student or gives compliments.
10. Delving - Delves, rephrases, gives clues.
11. Listening - Listens attentively to student.
12. Touching - Touches student in a friendly manner.
13. Higher Level Questions - Uses higher level questioning; calls for student opinion, explanation, evaluation.
14. Accepting Feelings - Accepts and reflects students' feelings in a nonevaluative manner.
15. Desists - Desists; corrects student behavior in a calm, courteous manner.

Madeline Hunter, as part of her famous "teacher decision-making model," designed a prescription of effective lesson design. She continually reinforces the fact that these

need not be present during every teaching episode. Her items for planning are as follows (Russell and Hunter, 1980; Sergiovanni, 1982):

1. Diagnosis - Identify a major objective and the status of learners in relation to this objective.
2. Specific objectives - On the basis of the diagnosis, select a specific objective for a particular group's instruction.
3. Anticipatory set - Focus the learners' attention, give brief practice on related learning previously achieved, and develop a readiness for the instruction that will follow.
4. Perceived purpose - Inform the learners of the objective, indicating why its accomplishment is important and relevant to present and future situations.
5. Learning opportunities - Selecting learning opportunities that promise to help learners achieve the objective.
6. Modeling - Provide both a visual example of what is to be attained (product or process) and a verbal description of the critical elements involved.
7. Check for understanding - Check for learners' possession of essential information and skills.
8. Guided practice - Circulate among students to see that they can perform successfully before being asked to practice independently.
9. Independent practice - Once learners can perform without major errors, they should be given opportunities to practice the new skill or process with little or no teacher direction.

John Carroll, of Harvard, developed a five-phase approach to his model of learning in 1963 (Carroll, 1963):

1. Aptitude - The amount of time needed to learn the task under optimal instructional conditions.
2. Ability to understand instruction.
3. Perseverance - The amount of time the learner is willing to engage actively in learning.
4. Opportunity - Time allotted for learning.
5. The quality of instruction - A measure of the degree to which instruction is presented so that

it will not require additional time for mastery beyond that required in view of aptitude.

Bill Spady developed the Outcomes Based Instruction Model (Spady, 1983). He proposes that teaching has the following functions: Engagement/acculturation, Production/instruction, Maintenance/supervision, and Standards/evaluation.

Waxman and Walberg's Key Elements of Classroom Management and Climate (Waxman and Walberg, 1982) developed a model focusing on four major elements: Advance organizers, Cognitive and motivational stimulation, Student engagement, and Reinforcement.

Donald Mackenzie's model (Mackenzie, 1981) promotes a sequencing of classroom instruction that centers on four key concepts: Sequence of review, Orientation, Application, and Testing of skills.

The Minneapolis School Model (Minneapolis Board of Education, 1981) resulted from a process of examining several models for creating a district-specific model. The Minneapolis model defined effective instruction in the following manner:

1. Instruction process
2. Shifting between task-orientation and the relationship orientation in a sequence of:
3. Telling
4. Selling
5. Participating, and
6. Delegating.

### Interrater Reliability

According to Wise (1984), most teacher evaluation systems are unproductive and unfair because they lack the necessary sophistication. Teachers' resistance to evaluation, according to Medley, Coker, and Soar (1984) is based on the belief that performance appraisal systems lack objectivity and are not based upon relevant criteria.

In a related study, Peterson (1988) examined evaluator bias and reliability. This study involved thousands of formative evaluations in a large urban school district. Some of those conclusions were:

1. Male evaluators rated teachers significantly higher than female evaluators.
2. Evaluators with higher levels of educational training are less likely than those with lower levels of training to assign lenient appraisal scores to teachers.
3. While some significant differences were noted in teacher appraisal scores based upon the experience level of the evaluator, these differences do not occur in a linear fashion.
4. Teacher performance appraisal ratings do not vary significantly between two different appraisers.
5. If a teacher is evaluated more than once in a school year by the same appraiser, it is highly likely that subsequent appraisals will have a direct positive relationship to the first appraisal.

### Summary

Based on the various types of existing models of effective instruction, there are also a variety of acceptable teaching competencies that are acceptable for the purpose of

teacher evaluation. In a joint publication (Duke and Stiggins, 1986) by several nationally recognized educational organizations, the authors recommended that school districts include the following as fairly basic teaching competencies:

- Diagnosing students' needs
- Planning and designing lessons
- Presenting information to students
- Using questioning strategies to promote learning
- Measuring student learning
- Managing the classroom effectively

Manatt, who has reviewed a variety of models, concluded that the models contain five common elements of effective teaching behaviors. These essential elements included (Manatt, 1988):

- Select objective at the correct level of difficulty.
- Teach to the intended objective.
- Monitor student progress and adjust instruction.
- Use the principles of learning.
- Test what has been taught, i.e., test for the objective.

After reviewing a variety of effective models, the following criteria were established for use in devising the observation instrument for this investigation:

- Determine what needs to be taught.
- Construct the lesson to meet student needs.
- Present lesson focused on intended objective.
- Incorporate effective principles of learning.
- Monitor student progress and adjust instruction appropriately.

- Current and periodic testing, to monitor mastery and retention, with reteaching as needed.



## CHAPTER III. METHODS

The purpose of this study was to develop and test a data gathering technique which had all the advantages of verbatim data capture coupled with the ease of data input, storage, and analysis by microcomputer coupled with an optical mark scanning machine. The steps in this study included: (1) research and information collecting, (2) planning and developing a formative evaluation instrument and training manual, (3) field testing, (4) developing a summative evaluation instrument, (5) training subjects, and (6) testing the formative instrument experimentally.

## Planning and Field Testing

This study is part of an ongoing series of School Improvement Model (SIM) research projects at Iowa State University contributing to the enhancement of the Computer Assisted Teacher Evaluation/Supervision (CATE/S) project as a viable tool to generate reports. Also, it was necessary to get hands-on experience from actual districts involved in developing a new evaluation system based on current research. This initial contact with districts going through a change process provided excellent background information in the planning and designing of this research instrument. It was the logical link to join theory and practical application

before making final decisions in developing the evaluation instrument.

A series of planning meetings were held throughout this project to ensure compatibility to a variety of parameters that existed due to the nature of this project. Constant attention to details was necessary in order that this instrument, the research design, and computer compatibility would result in an effective evaluation instrument compatible with CATE/S, and ultimately make a contribution to school improvement.

The observation scanform being developed by this research first had to include the most important teaching behaviors suggested by research on teaching. This was accomplished by combining the existing models found in the research base. Second, the behaviors needed to be congruent with the programming specifications of the software package CATE/S in order to avoid the very great cost of original program (PASCAL for the document scanner and COBAL for the micro computer). Therefore, the behaviors used were linked to the performance criteria embedded in CATE/S. Furthermore, it was necessary to devise a response mode hooked to each behavior which could be read by optical mark scanning to avoid keyboard input for what might be thousands of classroom observations in a given school district.

The "expert jury" (comprised of Libby Bilyeu, Walid Hawana, Tino Noriega, Dave Peterson, Marilyn Semones, and Lynn Stevenson Stewart), the Research and Evaluation Section of Professional Studies at Iowa State University, and the project director, Professor Richard P. Manatt, were frequently consulted. This process assured the compatibility and quality control for the product developed.

#### Initial Instrument Design

The initial development of the evaluation instrument was designed from the nationally recognized effective teaching models and combined with the CATE/S research on effective instruction. With these components serving as a research base, the SIM projects office was asked to design an observation sheet for a district requesting at least one or more items for each of the following categories. It was necessary to meet the specific requests of the district and the computer programming requirements.

The first instrument was designed for a school district in Illinois. It was to be a one-page, condensed, formative evaluation instrument addressing observable teacher behaviors. The district's evaluation task force met and decided that the teaching episode would be categorized into three major headings:

- I. Productive Teaching Techniques
- II. Organized, Structured Class Management
- III. Positive Interpersonal Relations

The initial design of the instrument was then developed around those guidelines and includes the following format:

I. Productive Teaching Techniques

The teacher:

1. Implements the lesson plan.
2. Motivates students.
3. Communicates effectively with students.
4. Provides students with specific evaluative feedback.
5. Prepares appropriate evaluative activities.
6. Displays a thorough knowledge of curriculum and subject matter.
7. Provides opportunities for individual differences.
8. Ensures student time on task.
9. Sets high expectations for student achievement.

II. Organized, Structured Class Management

The teacher:

10. Organizes students for effective instruction.
11. Plans for and makes effective use of time, materials, and resources.
12. Sets high standards for students' behavior.
13. Demonstrates evidence of personal organization.

### III. Positive Interpersonal Relations

The teacher:

14. Promotes positive self-concept.
15. Demonstrates awareness of the needs of the students.
16. Demonstrates sensitivity in relating to students.
17. Promotes self-discipline and responsibility.

Next, another school district located in Texas decided to broaden the scope of their formative evaluation instrument. The district's administrative team turned to the SIM projects office for assistance. Their evaluation committee had determined their evaluation instrument would be categorized into seven components, as follows:

- I. The teacher demonstrates effective planning.
- II. The teacher implements the lesson plan.
- III. The teacher communicates effectively with students.
- IV. The teacher uses evaluation activities appropriately.
- V. The teacher displays a thorough knowledge of curriculum and subject matter.
- VI. The teacher ensures student time on task.
- VII. The teacher implements discipline management in relating to students.
- VIII. The teacher demonstrates sensitivity in relating to students.

The following list of teaching behaviors was then developed as an initial format for the Texas evaluation instrument:

- I. The teacher demonstrates effective planning.
  1. Demonstrates effective personal organizational skills.
  2. Demonstrates evidence of classroom organization.
  3. Organizes students for effective instruction.
- II. The teacher implements the lesson plan.
  4. Provides the structure for learning.
  5. States instructional objectives.
  6. Models activities congruent with objectives.
  7. Provides sequential and effective input.
  8. Provides opportunities for students' participation.
  9. Provides clear directions.
  10. Incorporates effective questioning techniques.
  11. Provides opportunities for review.
  12. Provides opportunities for practice.
  13. Checks for student understanding.
  14. Paces lesson appropriately and/or adjusts as needed.
  15. Gives supportive and immediate feedback to students.
  16. Reteaches as needed.

- 17. Varies cognitive levels of instruction.
- 18. Provides enrichment/remediation as needed.
- 19. Provides closure.
- III. The teacher communicates effectively with students.
  - 20. Communicates effectively both orally and in writing.
  - 21. Incorporates a variety of appropriate modalities.
  - 22. Establishes appropriate expectations for students.
- IV. The teacher uses evaluation activities appropriately.
  - 23. The teacher prepares appropriate evaluation activities.
- V. The teacher displays a thorough knowledge of curriculum and subject matter.
  - 24. Presents subject matter sequentially.
  - 25. Displays a thorough knowledge of the subject matter.
- VI. The teacher ensures student time on task.
  - 26. Creates positive conditions for students' motivation.
  - 27. Ensures student time on task.
- VII. The teacher implements discipline management in relating to students.
  - 28. Maintains high standards for students' behaviors.

VIII. The teacher demonstrates sensitivity in relating to students.

29. Demonstrates sensitivity in relating to students.

30. Demonstrates equitable treatment of all students.

After meeting the needs of two school districts in two different states (requesting distinctly different instruments based, primarily, on the same research), the ground was established to develop a generic instrument for formative evaluation.

#### Developing Evaluation Instruments and the Training Manual

The list of teacher competencies for the evaluation instrument was selected from the CATE/S manual, based on the review of a variety of nationally prominent instructional models, and items from the review of literature outlined in Chapter II. All items used were validated as significant behaviors for improving student learner outcomes by at least two major studies of teacher effect.

In order to enhance validity, the "expert jury" had to approve the instrument. This required collectively debating and reaching unanimous agreement. The challenge was to agree on a minimal number of evaluation descriptors that could best summarize all teacher classroom teaching behaviors (see Appendix A). It was intended that this instrument be used



after classroom data have been gathered by timelining, script taping, or other "yellow pad" methods.

The training manual underwent a similar process. The "expert jury" had to reach unanimous consensus on the definitions as well as the examples used for each item of the evaluation instrument. Due to the fact that this was a training manual, the purpose was to capture essence of the behaviors, not to be totally definitive. Subjects involved in this study varied from having no experience to having several days of evaluator training and many years of evaluator experience; thus this instrument was designed to be generic and not district-specific. It was intended to meet a wide variety of subjects' needs and backgrounds (see Appendix B).

The process of developing the evaluation instrument and training manual involved many meetings over a period of several weeks. It is essential to understand that this was not an attempt to create a perfect evaluation instrument but one that reaches agreement among a panel of trained observers.

After determining the number and types of items for the evaluation instrument and manual, a response mode was developed. The evaluation instrument had certain parameters for this project. First of all, it was to be compatible to the Sentry 3000 optical scanner. This is the optical scanner used by the software package CATE/S for processing evaluation information into IBM and Apple computers. Also, it was

necessary to provide the evaluatee with immediate feedback, by means of a duplicate copy, after the postobservation conference.

Only basic response indicators were needed for training purposes. Primarily, it was necessary to determine if the subjects, viewing a video-based classroom teaching episode, could accurately determine if a teaching behavior was or was not observed. Second, subjects were expected to correctly determine whether the presence or absence of that teaching behavior was appropriate or inappropriate in terms of students' success in learning. Consequently, the following ratings were used: (0) Absent, OK; (1) Absent, Not OK; (2) Present, Unacceptable; and (3) Present, Acceptable.

Demographic data were also essential information to be included on the formative scanform. It was important that larger school districts be able to identify the building in which the evaluation is taking place. Each teacher and evaluator was to have an identification number (ID). The ID numbers could be represented by their respective social security number for ease of remembering.

#### Developing a Summative Instrument

In order to determine if there was a significant difference between the experimental and the control in summarizing two teaching episodes, a summative instrument was needed. In meeting the needs of this research project, it was

determined that it should be similar in design and format to that of the formative instrument.

The summary instrument was developed by identifying discriminating items from the formative instrument. The "expert jury" reviewed and analyzed the two Gerry Page videotapes to be used in the training sessions for this study. The twenty-two item, formative evaluation instrument was reduced to ten items for the summative instrument. These were judged the most observable evaluation items that were identifiable. The terminology and definitions for each item in the summative evaluation instrument were identical to those of the formative instrument.

The jury also identified the most appropriate ratings for each item on the SIM summative evaluation. The jury ratings were used as the "right answers" to determine the relative accuracy of each group in completing the summative instrument based on the two previous formative evaluations of the same classroom teacher observed in two videotaped classroom vignettes.

It should be noted that this summative instrument is for research purposes only and not intended to replace the standard SIM summative evaluation form.

### The Experiment

The experiment required training a group of participants in using the formative and summative evaluation instruments.

Evaluators, seeking SIM teacher evaluation training, were used as volunteer subjects. Three different training sites were selected for this study. Training was conducted during the months of June and August 1987. Professor Richard P. Manatt, co-director of SIM, was the trainer throughout this study.

The first group was a subgroup of the summer (annual) SIM conference at Iowa State University which received their training June 29 through July 2, 1987. The Erie, Pennsylvania group received training August 3-7, 1987. The Independence, Kansas group received training August 17-21, 1987. The major objective of each group was to develop or expand their ability in classroom observation and evaluation skills.

The workshop outline provides an overview of the training experiences that each participant at the various sites received (see Appendix C). Instructional materials and methods that supported this experiment included video-based instructional modules developed by Professor Manatt for both the American Association of School Administrators (AASA) and the Association for Supervision and Curriculum Development (ASCD).

Each workshop began with a welcome and the reading of the prepared Human Subject Release Statement (see Appendix D). The subjects were paired into groups of two, and each pair was given one yellow and one blue information card to be filled out immediately (see Appendix E). These cards provided the

demographic data about each of the subjects. The subjects who completed the yellow cards comprised the experimental group and those who completed the blue cards were the control group.

After receiving instruction on the evaluation process and practice with timelining from (see Appendix F) Professor Manatt, the experimental subjects (yellow group) were given the observation manual (see Appendix B) to read while the control subjects (blue group) read generic information on effective instruction (see Appendix G). Upon completing this exercise, the subjects viewed a videotape depicting a junior high math class ("Bob Johnson") and recorded and evaluated that teaching episode. This process was to familiarize the subjects with completing the optical scanner form and marking their evaluative judgments regarding what was observed on the evaluation instrument.

The results were processed immediately by the onsite computer and results were shared with the class (see Appendix H) in a matter of minutes. Throughout this study, whenever the class results were shared, they were also compared with the results obtained by the "expert jury."

Next, the subjects viewed two videotaped classes taught by a math teacher named Gerry Page. In these vignettes, junior high school, advanced mathematics students were studying "transversals." Lesson plans, student handouts, and

other work samples were provided to approximate the usual artifacts in a performance evaluation folder (see Appendix I).

The subjects received further instruction and the first experimental tape ("Gerry Page I") was observed and evaluated by all subjects. The results were collected and processed by the computer, within minutes, for immediate class feedback. Later, after continued instruction, the second "Gerry Page II" tape was viewed and evaluated by the group. This was a different lesson and the subjects again analyzed his performance and completed the formative evaluation. Results were processed in the same manner as the previous evaluations and the group ratings were shared with the class.

The subjects next received instruction on how to complete the Summative Evaluation Report (SER). They then simulated an end-of-the-year activity by analyzing the previous Gerry Page teaching episodes, reviewing their notes and formative evaluations, assessing work samples, and then completed the SER (see Appendix A). They then transferred their ratings to the Summative Evaluation Scan Form (see Appendix J) for computer input and processing. Again, their results are analyzed for immediate feedback and compared with the "expert jury."

The trainees assigned to the control group were asked to use traditional methods of data capture and analysis. They were instructed to make notes and then label and analyze the

behaviors noted by making marginal notes on the observation form. Both the experimental and the control group had the same orientation and had one practice session using a classroom vignette called "Bob Johnson," a teacher instructing a junior high mathematics class in probability.

Both experimental and control groups completed the summative evaluation form (see Appendix K). They then recorded their responses on the summative evaluation "bubble sheet" (see Appendix J). Again, it needs to be emphasized that the computer summative evaluation was for research purposes only and was not intended to replace the standard SIM summative evaluation form.

#### Experimental Design

The experiment to test the feasibility of the formative evaluation report and the training manual is depicted in Figure 1.

Experimental (Yellow)	1y	2y	3y	4y	5y
	B o b  J o h n s o n	T r a i n i n g	P a g e  I	P a g e  I	S u m m a t i v e
Control (Blue)	1b	2b	3b	4b	5b
1y&b	Both groups receive the same orientation.				
2y	Receives the training manual (experimental).				
2b	Receives another booklet (placebo).				
3y	Script taping and formative evaluation form (practice).				
3b	Script taping and lesson labeling.				
4y	Script taping and formative evaluation form (practice).				
4b	Script taping and lesson labeling.				
5y	Review data and complete summative evaluation form.				
5b	Review data and complete summative evaluation form. (Comparisons between 5y and 5b final "Page" overall rating were made.)				

Figure 1. Graphic representation of the experiment



## CHAPTER IV. FINDINGS

This chapter is divided into two sections: (1) Descriptive Data and (2) Inferential Statistics. Descriptive data for this research were compiled from the Registration Form completed by all the participants. Also, the Teacher Performance Evaluation Assessment Scale (a pretest of evaluation knowledge) was being used at the Iowa site. Data for the inferential statistics were compiled from the Formative Evaluation Instrument and the Summative Evaluation Instrument forms.

## Descriptive Data

One hundred and fifteen educators were involved in this study. The subjects were randomly given, every other one, a yellow or blue colored registration card. The experimental group (yellow) was given time to review the instruction manual and provided practice in using the formative evaluation instruments. The control group (blue) did not receive exposure to the manual or practice using the formative evaluation instrument. Both groups completed the summative evaluation form.

Table 1 reveals that the groups were equally divided. The yellow group (57) was approximately equal to the blue group (58) with a total N=115.

Table 1. Number and percentages of experimental and control subjects (N=115)

Characteristic	Number	Adjusted percent
Experimental - Manual	57	49.6
Control - Nonmanual	58	50.4
Total	115	100.0

As indicated by Table 2, approximately three-fourths of the participants were male. There were 27 females in this study compared to 88 males.

Table 2. Number and percentages of male and females (N=115)

Characteristic	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	N	Valid %	N	Valid %	N	Valid %
Female	11	19.3	16	27.6	27	23.5
Male	46	80.7	42	72.4	88	76.5
Total	57	100.0	58	100.0	115	100.0

Inspection of Table 3 reveals the participants' number of years of evaluation experience. Approximately one out of five had no previous on-the-job experience as an evaluator. Slightly less than one-third of the group had more than 10 years of evaluation experience. The subjects indicating 10 or more years of evaluation experience totaled 32 participants,

Table 3. Years of experience as an evaluator

Characteristic	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	N	Valid %	N	Valid %	N	Valid %
None	8	14.3	14	24.6	22	19.5
1 or 2 years	9	16.1	8	14.0	17	15.0
3 through 5	6	10.7	8	14.0	14	12.4
6 through 10	14	25.0	14	24.6	28	24.7
Over 10	19	33.9	13	22.8	32	28.5
No response	1	--	1	--	2	--
Total	57	100.0	58	100.0	113	100.0

while at the other extreme, less than one-third had no previous training.

The number of days of teacher evaluation training that the participants had already received was indicated by Table 4. They averaged five and one-half days of training. The group containing the highest number of participants, four through 10 days, totaled 35.

Table 4. Number of days of previous teacher evaluation training the participants received

Characteristic	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	N	Valid %	N	Valid %	N	Valid %
None	15	26.8	17	29.8	32	28.3
1 through 3	14	25.0	10	17.5	24	21.2
4 through 10	15	26.8	20	35.1	35	31.0
Over 10	12	21.4	10	17.5	24	19.5
No response	1	--	1	--	2	--
Total	57	100.0	58	100.0	115	100.0

In Table 5 slightly over half of the members had no previous training with Manatt. The total number for that group was 60 and represented 53.6 percent. The next largest group was 29 (25.9 percent), which had only one day of evaluation training with Manatt.

Table 5. Number of days of teacher evaluation training the participants received with Manatt

Characteristic	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	N	Valid %	N	Valid %	N	Valid %
None	28	50.0	32	57.1	60	53.6
1 day	17	30.4	12	21.4	29	25.9
2 days	7	12.5	4	7.1	11	9.8
Over 2	4	7.1	8	14.3	12	10.8
No response	1	--	2	--	3	--
Total	57	100.0	58	100.0	115	100.0

The number of trainees present at the various sites are indicated in Table 6. The Iowa group was the largest with 55 subjects, followed by Pennsylvania with 45, and Kansas with 15; although training was given at these sites, only combined group results were used.

Years of previous teaching experience was examined in Table 7. This question was not asked of the Iowa group, which accounts for the large "no response" total. The largest clustering identified was the "over 10" years of teaching

Table 6. Location and number of subjects at each site for this study

Characteristic	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	N	Valid %	N	Valid %	N	Valid %
Iowa	27	47.4	28	48.3	55	42.8
Pennsylvania	23	40.4	22	37.9	45	39.1
Kansas	7	12.3	8	13.8	15	13.0
Total	57	100.0	58	100.0	115	100.0

Table 7. Years of teaching experience (Iowa group not included)

Characteristic	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	N	Valid %	N	Valid %	N	Valid %
0 through 5	3	10.3	10	35.7	13	23.0
6 through 10	11	37.9	7	25.0	18	31.5
Over 10	15	51.7	11	39.3	26	45.5
No response	28	--	30	--	58	--
Total	57	100.0	58	100.0	115	100.0

experience group with 26 participants accounting for 45.7 percent to the total group surveyed.

Table 8 reviews the teaching background of the participants. This was only attempted with the Iowa group. There was such diversity in answers due largely to differing interpretation and definitions, that it was of little value in contributing further to this study. As a result, the question was dropped for the Pennsylvania and Kansas subjects.

Table 8. Types of teaching background represented by the participants<sup>a</sup>

Characteristic	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	N	Valid %	N	Valid %	N	Valid %
Elementary	7	24.1	5	19.2	12	21.8
Middle school	14	48.3	10	38.5	24	43.6
High school	8	27.6	11	42.3	19	34.5
No response	28	--	32	--	60	--
Total	57	100.0	58	100.0	115	100.0

<sup>a</sup>Elementary and high school divisions were retained; anyone having any middle school or other experience was classified as middle school.

Table 9 presents the training background of the participants. The group having had no previous training numbered 27, which was approximately 25 percent of the sample population. Those receiving other training totaled 33 or approximately 30 percent. The largest group represented in this sample was 52, indicating that they had participated in the Manatt training only.

Table 9. The number of subjects having teacher evaluation training

Characteristic	<u>Experimental</u>		<u>Control</u>		<u>Total</u>	
	N	Valid %	N	Valid %	N	Valid %
No training	12	21.4	15	26.8	27	24.1
Other training	16	28.6	17	30.4	33	29.5
Only Manatt training	28	50.0	24	42.9	52	46.4
Total	56	100.0	56	100.0	112	100.0

## Inferential Statistics

In the Iowa group it was evident that there was a difference in the knowledge base demonstrated through a multiple-choice pretest about teacher evaluation. Table 10 indicates that those who have had no training were scored significantly lower than those who have had four to 10 days of training ( $p < .05$ ). Those participants with training scored higher than the beginners.

Table 10. Mean, standard deviation, and the results of the analysis of variance of data gathered when the Iowa participants were categorized by number of days of training using the results of correct scores obtained on the pretest

Characteristic	N	Mean <sup>a</sup>	S.D.	F-value
None	24	25.92	.84	2.40*
1 through 3 days	11	29.00	5.88	
4 through 10 days	11	29.82	4.62	
11 or more days	7	28.86	3.93	

<sup>a</sup>Total score possible = 50.

\*Significant at the .05 level.

The expert jury rated each of the prototype instruments. Their scores were used as the right answers. Next, each trainee rating was compared to those right answers.

Table 11 shows no significant difference among the training groups in rating video performance of Gerry Page. It appears that the initial training the participants received

Table 11. Mean, standard deviation, and analysis of variance of ratings of video performance (Page I pretest, Iowa)

Characteristic	N	Mean <sup>a</sup>	S.D.	F-value
No training	12	13.33	1.62	.89
Other than Manatt training	16	13.38	1.02	
Manatt only/other training	27	12.81	1.69	
Total	55	13.09	1.51	

<sup>a</sup>Total score possible = 22.

from this seminar equalized the groups by the time the first video performance was rated.

The question of whether teaching experience made a difference was investigated in Table 12. There was no significant difference indicated. However, it should be noted that the group with the most experience ("6 through 10" years of teaching experience) had the most correct ratings, while the group with a mean of "3 through 5" years of experience had the least correct responses, an average of 13.67. These differences were not statistically significant.

Once again, trainees' responses were compared to the ratings by the expert jury on the summative evaluation forms. Table 13 indicates that the mean ratings of the experimental group were significantly higher than the means of the control group ( $p < .01$ ).



Table 12. Mean, standard deviation, and analysis of variance of ratings by the experimental group categorized by varying levels of teaching experience for the evaluation of the Page II videotaped teaching episode

Characteristic	N	Mean <sup>a</sup>	S.D.	F-value
No teaching	7	14.29	.95	1.6
1 through 2 years	9	14.56	1.33	
3 through 5 years	6	13.67	2.07	
6 through 10 years	14	15.00	.78	
11 years and over	18	14.72	.96	

<sup>a</sup>Total score possible = 22.

Table 13. Mean, standard deviation, and t-value of the ratings by the participants categorized by experimental and control groups using the number correct responses for the summative evaluation

Characteristic	N	Mean <sup>a</sup>	S.D.	t-value
Control group	55	4.38	1.03	12.41**
Experimental group	57	7.00	1.20	

<sup>a</sup>Total score possible = 10.

\*\*Significant at the .01 level.

Table 14 shows the comparison of the scores on the summative evaluation when analyzed by the type of previous training. Those who had had training, but not Manatt's training, rated the simulated teaching least accurately on this evaluation. Those who had no previous training as a

Table 14. Mean, standard deviation, and the results of the analysis of variance of data gathered when the experimental participants were categorized by types of training and the results of correct scores obtained on the summative evaluation

Characteristic	N	Mean <sup>a</sup>	S.D.	F-value
No training	12	7.83	1.11	5.91**
Other than Manatt training	16	6.38	1.31	
Manatt only/other training	28	7.00	1.21	

<sup>a</sup>Total score possible = 10.

\*\*Significant at the .01 level.

teacher evaluator rated the video performance most like the expert jury. By the Duncan post hoc test, significant differences at the .05 level were found between the group with no training and the two other groups. The group with previous training and the group with no training were significantly different than the group that had had Manatt only/other training. Additional statistical analyses were completed to determine if other differences existed by rater characteristics (i.e., gender or experience); none were found.

When comparisons were made by gender, training, years of experience teaching and evaluating, the experimental and control groups were relatively the same. Therefore, no subset analyses were deemed necessary.

## CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The problem for this study was to develop and test a comprehensive list of teacher behavior descriptors to be used as a resource in interpreting holistic data capture during a classroom observation and to develop a means for encoding all necessary data describing salient teachers' and selected students' classroom behaviors in a format suitable for optical scanner input to a microcomputer. This concern was addressed in this study and can be more clearly defined by the following objectives:

1. To develop a list of teacher competencies based on a review of the literature.
2. To develop a performance rating scale which relates to each of the competencies.
3. To develop the teacher observation summary instrument to be compatible with the Sentry 3000 optical scanner.
4. To train subjects through inservice provided by Professor Richard P. Manatt, Iowa State University.
5. To test the system using approximately 100 subjects, who are evaluating video-based teaching simulations.
6. To validate trainees' ratings by comparing their results to those of an "expert jury."

Chapter V has been organized into the summary, conclusions, limitations, discussion, recommendations for further research, and recommendations for practice. Each of these areas will be discussed in the remainder of this chapter.

### Summary

This research developed and tested a teacher evaluation instrument which was designed for computer compatibility. Participants in this study were seeking evaluation training at the three different sites (i.e., Iowa, Pennsylvania, and Kansas) during July through August of 1987. Professor Richard Manatt was the trainer at each site, and he attempted to provide consistent training techniques.

The observation instrument was changed significantly from its conception. It had to be practical in terms of useability and be representative of the research on effective teaching as contained in prominent instructional models. The use of the "expert jury" enhanced this study through their collaborative input. The items in the original instrument were reworded, combined, and some were eliminated. The same results were typified in the training manual. Hours of painstaking work contributed to the end product, i.e., definitions and examples that had to satisfy individuals that were knowledgeable in effective teaching. Twenty-two behaviors were used on the final version of the document.

During this experiment, the experimental group had access to, and study time with, the training manual and received guided practice using the optical scanner evaluation instrument (formative evaluation). The control group did not have access to the training manual or the optical scanner evaluation forms. The control group summarized the lessons observed via videotape by developing their own narrative techniques (formative evaluation). Both the experimental and control groups concluded their training by completing an identical summative instrument (an abbreviated evaluation instrument which included only criteria that were contained in the videotaped simulations).

Typical teachers' behaviors were identified for the evaluation instrument after researching current models of effective teaching. Each behavior was defined and sample descriptors were used. Manatt training, which has been developed and refined over years of experience in the field, was used. Videotapes called "Page I" and "Page II" were selected for use in this study. The "Page" series portrayed the same teacher teaching different lessons to provide teacher/evaluation consistency for the experiment and to allow enough data to support a summative evaluation at the conclusion of the training.

Standard deviations were used in determining group reliability after each formative rating. The subjects were

also asked, "What improvements would you make to improve this instrument?"

### Conclusions

Based on the Iowa site pre-test scores, there was evidence that a wide range of entry knowledge about teacher evaluation existed. Also, analysis of demographic data revealed that subjects had diverse backgrounds relating to teaching field, educational levels served (i.e., Elementary, Junior High, High School), years of experience teaching, and years of experience evaluating teacher performance. Generally, it can be assumed that all subjects were seeking training in teacher evaluation on their own or as part of training required by their district.

Based on the responses of the experimental group, it appeared that the instrument and the manual were successful. Through repeated observations and ratings and the use of the training manual, the experimental groups at the various sites rated the simulated teaching performance more accurately as indicated by ratings similar to those of the expert jury.

After receiving effective instruction and training incorporating the manual and optical scanner sheet, the experimental group, with their diverse background, demonstrated a degree of rater reliability. Formative data analysis revealed that the experimental groups were demonstrating similar responses to those of the expert jury

immediately following the initial training and sessions prior to the "Page I" videotape.

The experimental group, those trained with the manual, scored significantly higher on the summative evaluation. They were capable of demonstrating evaluation skills superior to those within the control group. In this study, the training manual was the significant variable responsible for this outcome.

#### Limitations

Interpretation of the findings of this investigation must include the following limitations:

1. The participants did not experience actual observations in the classroom. They only had the opportunity to view a videotaped recording of classroom teaching.
2. No attempt was made to determine whether or not the participants accurately categorized their observed data which had been recorded on the yellow pad.
3. The experimental group received more practice than did the control group in completing optical mark reader scanforms. Perhaps that experience helped them in accurately completing the summative evaluation at the end of the experiment.
4. Choice of appropriate videotapes of classroom teaching for training purpose was extremely limited.

As simulation tapes become more readily available for other subjects, they should be reviewed for suitability to create formative data for summative ratings.

5. The subjects in this study were paying for inservice training in teacher evaluation. Some alterations in the presentation were necessary to ensure that the training commitment was the primary focus. Thus, conditions at various sites were slightly altered to meet unique instructional needs for each group.
6. It must also be assumed that the "expert jury" had the expertise to discern the most appropriate response on each criterion of the summative evaluation instrument.
7. Not all the subjects were given a pretest to determine their knowledge of teacher evaluation. Based on information gathered from the largest sample site, it can be inferred that a wide range of expertise existed amongst the subjects.

### Discussion

This discussion will focus on the questions that were proposed in the initial phase of this study.

Question 1: What are the most typical behaviors exhibited by a teacher under observation by a supervisor while teaching subjects offered in elementary and secondary school?

---



The development of this evaluation instrument occurred over a period of approximately two years. It was intended for training purposes and to provide a generic overview of instructional competencies. After reviewing the literature and consulting experienced practitioners (expert jury), it was the intent to develop a minimal list of competencies that would reflect the total teaching process.

Several lengthy meetings were held so that a wide variety of views and evaluation competencies would be shared openly. This resulted in an eclectic selection of items on the evaluation instrument. Evidence of this accomplishment was shared by the informal response of the subjects participating in this study.

It was concluded that the following items identified the most typical effective teaching behaviors: The teacher...

1. Demonstrates effective personal organizational skills.
2. Organizes students for effective instruction.
3. Provides the structure for learning.
4. States instructional objective(s).
5. Provides sequential input congruent with objectives.
6. Provides modeling.
7. Provides opportunities for student participation.
8. Provides clear directions.
9. Incorporates effective questioning techniques.

10. Provides opportunities for guided practice.
11. Checks for student understanding.
12. Paces lesson appropriately and/or adjusts as needed.
13. Gives supportive and immediate feedback to students.
14. Provides enrichment/remediation/reteaching as needed.
15. Models effective communication skills.
16. Prepares appropriate evaluation activities.
17. Displays a thorough knowledge of the subject matter.
18. Incorporates techniques to motivate students.
19. Ensures student time on task.
20. Maintains high standards for student behavior.
21. Demonstrates sensitivity in relating to students.
22. Demonstrates equitable treatment of all students.

Question 2: How do these behaviors relate to research on effective teaching?

All items identified in the evaluation instrument are representative of elements of effective instruction and/or are taken from research on teacher effect. The manual contains only behaviors which have been validated by two or more major research projects.

Question 3: How do these possible behaviors relate to contemporary models of effective teaching?

A variety of instruction models were reviewed to develop this instrument. It is not representative of any one specific model. Again, the "expert jury" assisted in providing a "wide

angle lens" approach to various instructional models. This instrument was to facilitate instruction of clinical supervision by a variety of subjects with various degrees of knowledge and expertise of instructional models.

Question 4: What is a proper definition of each behavior?

Each item on the instrument was given a definition. Also, examples of each item were also given to provide each subject with another modality for interpretation. The combination of definition and example for each item on the evaluation was to provide a generic interpretation.

Question 5: How can teacher evaluators most effectively be taught these descriptors?

Because the experiment was conducted by a single instructor (Manatt) to avoid the "teacher effect" that is common when two different instructors are used, the experimental group had to "teach themselves" to use the descriptors while the control group read research articles on teacher evaluation (as a placebo). Therefore, in this investigation, all definitions of the descriptors (behaviors) were provided in the manual but no discussion or questions were allowed. No doubt with future use of the instrument, direct instruction should be provided to help the trainees better understand the behavior descriptors.

Question 6: What existing videotapes would be best for testing the scanform observation document?

More than a dozen tapes were reviewed to determine which ones best met the objectives for this research project. Most tapes were just one teaching episode by one individual. The tapes "Page I" and "Page II" (ASCD, 1987) are the same teacher teaching two different courses on two different days. These tapes demonstrated a range of average to above average teaching performance (depending on district standards). Also, having the same teacher for two formative evaluation cycles was considered a better preparation for completing the summative evaluation. Thus, these two tapes were selected for this research project.

Question 7: How can the proposed observation system be tested experimentally for validity and interrater reliability?

After every observation was completed, the computer program (CATE/S) was used in interpreting the results. A frequency count was made for each of the four response choices, a mean score was derived, and a standard deviation computed. Each repetition of the standard deviation was lower; thus, it was evident that the subjects were gaining interrater reliability as the training continued.

Question 8: What statistics could be used as a measure of observer reliability?

Standard deviations were computed after each observation. Less deviation meant better interrater reliability as the training progressed.

Question 9: What teacher/evaluation training groups could be used for developmental steps in the creation of the system?

In order to determine what subjects would be most appropriate for this study, a variety of options was explored. Various graduate level classes were considered but did not seem appropriate for a variety of reasons. It was desirable to involve subjects seeking training in teacher evaluation. Manatt's teacher evaluation training sessions offered during the summer seem to provide the best opportunity. This option provided subjects desiring to acquire learning or improving on their skills as an evaluator. Also, it provided testing in three different states. Another advantage was that Manatt is a nationally recognized trainer whose long experience and considerable training skills would provide theoretically consistent training at each site.

Question 10: What questions should be asked of trainers to determine methods for improving the instrument?

The subjects were asked, "If you could improve this evaluation instrument, what changes would you make?" Consistently, item number 14 was addressed. It is written as follows, "Provides enrichment/remediation/reteaching as needed." It was the only significant response that was shared at every site. The trainees' suggestion was separating this item into three separate behaviors or that a single global description be used.

Question 11: What prototype and final format should be used for a scanform?

This instrument in its final form proved to be very successful. Again, this is a prototypic instrument and is not intended for district use in its present form. The computer rating system provided the needed data. However, item 14 should be changed to "Provides, as needed, instruction for student at different levels of understanding." This instrument was well received by the subjects of this research study and was rated very positively.

Question 12: What programming will be necessary to use this observation document CATE/S?

The CATE/S program (written in assembler language) is now able to use any formative behaviors needed up to a maximum of 23 items. A four-choice response mode is available which could be expanded to five with little effort.

It is interesting to speculate on why subjects with no prior training did a better job at rating Page on the summative instrument. One possible explanation would be that subjects with less training were more attentive and involved with the "new" learning. Those subjects with previous training may have had a "lower level of concern" regarding this training. Also, they may be involved with implementing their district's evaluation instrument, resulting in negative transfer of learning to the generic instrument.

### Recommendations for Further Research

1. Because a major limitation of this study was the absence of a pretest by all subjects, it is recommended for any replication research. This would provide better information as to whether the subject's prior knowledge would have a direct influence on the final outcome. Unfortunately, this procedure was not a prescribed component of the inservice training sponsored by school districts at the other sites.
2. Due to the wide variety of responses to the question "Teaching major?" on the subjects' demographic data card, it was difficult to interpret the information, and it was eliminated from this study. A forced-choice response mode would have been more appropriate and would have allowed the subjects to determine their most appropriate teaching/administrative majors. This would have assisted in determining if teacher or administrators, elementary or high school teachers, etc., have significant entry differences in rating teacher performance.
3. No significant difference was found between male or female, years as a teacher evaluator, etc. However, other traits should be explored such as attitude, job descriptions, and other such factors to determine if

any significant relationships exist with the ability to evaluate teacher performance.

4. The experimental group had the training manual and practice using the evaluation form while the control group did not. Determining the extent to which the additional practice of using the scanform materials or the process of instruction would assist in providing knowledge for improving teacher evaluation training.

#### Recommendations for Practice

This research demonstrated the effectiveness of the manual in the training process for effective evaluation. This evidence would support the notion that a well-designed training manual, to accompany a district's evaluation program, would provide additional support in enhancing the quality control of the district's program.

The items on the evaluation instrument seemed to be very functional. With the exception of item 14, it appeared to be well received by the participants of this research. This observation/evaluation instrument would be an effective tool to use for expanding or refining an instrument for any school district. It generically addresses all major components of effective instruction for districts to examine.

The manual/scanform approach also was meant for district training. Evaluators, through periodic simulation training



exercises, could assess their evaluation skills in comparison to others in the district. The computer program would provide immediate feedback assuring reliability within the school district.

A district's commitment to training evaluators should include more training time. Each training program at each site in this investigation represented only a small "slice of time" in comparison to many of the other days in an evaluator's school year. Research clearly indicates the distributed practice maintains skills knowledge which cannot be duplicated within the time frame of a training session.

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APPENDIX A.

FORMATIVE EVALUATION REPORT (COMPUTER BUBBLE SHEET)

## FORMATIVE EVALUATION REPORT

- Use a No. 2 pencil to complete this form.
- Be sure to fill the bubbles completely.
- Erase cleanly any marks you wish to change.
- Write comments only where indicated.
- Do not fold this form.

NAME: \_\_\_\_\_

**No Mark = Absent OK**

**1 = Absent, Not OK**

2 = Present, Unacceptable

**3 = Present Acceptable**

LOW --- HIGH

- The teacher. . .
1. **Demonstrates effective personal organizational skills.**
  2. **Organizes students for effective instruction.**
  3. **Provides the structure for learning.**
  4. **States instructional objective(s).**
  5. **Provides sequential input congruent with objectives.**
  6. **Provides modeling.**
  7. **Provides opportunities for student participation.**
  8. **Provides clear directions.**
  9. **Incorporates effective questioning techniques.**
  10. **Provides opportunities for guided practice.**
  11. **Checks for student understanding.**
  12. **Paces lesson appropriately and/or adjusts as needed.**
  13. **Give supportive and immediate feedback to students.**
  14. **Provides enrichment/remediation/reteaching as needed.**
  15. **Models effective communication skills.**
  16. **Prepares appropriate evaluation activities.**
  17. **Displays a thorough knowledge of the subject matter.**
  18. **Incorporates techniques to motivate students.**
  19. **Ensures student time on task.**
  20. **Maintains high standards for student behavior.**
  21. **Demonstrates sensitivity in relating to students.**
  22. **Demonstrates equitable treatment of all students.**

## OVERALL RATING

### EVALUATOR COMMENTS

TEACHER COMMENTS

**PLEASE DO**

**NOT WRITE**

## IN THIS

**SHADED AREA**



APPENDIX B.  
CLASSROOM OBSERVATION TRAINING MANUAL

CATES/S  
CLASSROOM OBSERVATION TRAINING MANUAL

Co-directors:

Dr. Richard P. Manatt  
Dr. Shirley Stow

Staff:

Libby Bilyeu  
Dr. Walid Hawana  
Tino Noriega  
Dave Peterson  
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The School Improvement Model Projects  
College of Education  
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Iowa State University  
Ames, Iowa 50011

**COMPUTER ASSISTED  
TEACHER EVALUATION/SUPERVISION  
CATE/S**

Classroom Observation Data Form  
Dixon Public Schools

- Use a No. 2 pencil to complete this form.
- Be sure to fill the bubbles completely.
- Erase cleanly any marks you wish to change.
- Write comments only where indicated.
- Do not fold this form.

NAME: \_\_\_\_\_

9/85

**LOW**

## HIGH

**The teacher . . .**

- 1 Demonstrates effective personal organizational skills. Cr 10
- 2 Organizes students for effective instruction. Cr 9
- 3 Provides the structure for learning. Cr 1
- 4 States instructional objective(s). Cr 1, 2
- 5 Provides sequential input congruent with objectives. Cr 1,5,7
- 6 Provides modeling. Cr 2, 5
- 7 Provides opportunities for student participation . Cr 2, 4
- 8 Provides clear directions. Cr 3
- 9 Incorporates effective questioning techniques. Cr 2
- 10 Provides opportunities for guided practice. Cr 3, 4
- 11 Checks for student understanding. Cr 3
- 12 Paces lesson appropriately and/or adjusts as needed. Cr 3
- 13 Gives supportive and immediate feedback to students. Cr 6
- 14 Provides enrichment/remediation/reteaching as needed. Cr 8
- 15 Models effective communication skills. Cr 3
- 16 Prepares appropriate evaluation activities. Cr 6
- 17 Displays a thorough knowledge of the subject matter. Cr 19
- 18 Incorporates techniques to motivate students. Cr 4
- 19 Ensures student time on task. Cr 10
- 20 Maintains high standards for student behavior. Cr 11
- 21 Demonstrates sensitivity in relating to students. Cr 12, 13
- 22 Demonstrates equitable treatment of all students. Cr 2, 14

**Absent, OK = no mark**

Absent, Not OK = 1

Present, Unacceptable = 2

Present, Acceptable = 3

## I. INTRODUCTION

Every profession worthy of its name derives itself from the fact that average persons off the street do not possess the same skills. Lawyers can write and interpret legal briefs, medical doctors can diagnose illness and perform life-saving skills. As professional educators, we should know more about what constitutes effective instruction, be able to practice it; and, when applicable, know how to evaluate it.

There is no such thing as a perfect instructor, evaluator, or evaluation system. However, it is certainly within the realm of possibilities, that we can improve an evaluation instrument so that it best achieves equity, validity, and reliability. All must function in a framework that improves student learner outcomes in a productive work environment.

We need to continually "close the gap" between research, theory, and experience. Each has an intricate part in the total scheme of improving effective instruction and assessment. Research is the scientific investigation and study to discover facts. If it is conducted properly, research can be replicated with very similar results. It is never infallible but if interpreted and applied to appropriate situations will, in all likelihood, lead to predictable results. Theory is based on research findings but is not yet proven by scientific investigation. Theory is closely aligned with one or more studies and will probably be investigated more thoroughly at a later date. Finally, experience gives us basic beliefs based on day-to-day examples or the experiences of others that we have come to accept as our own beliefs. Unfortunately, as in other professions, there are a great number of unsubstantiated "truths" we have come to accept.

The body of educational knowledge has grown rapidly in the last twenty years. However, we cannot expect to validate everything we do by research. It is not practical or humanely possible to program ourselves for such an educational existence. The conventional way to deal with change is to wait until every shred of research is uncovered and do nothing until then (i.e., the Surgeon General's report on smoking is a classic example.) However, in education we cannot avoid using what research has accomplished thus far.

A logical alternative would be to combine the various strengths of research, theory, and experience into productive and effective strategies for teaching and evaluation. This is the approach used by the S.I.M. researchers in creating this training manual and its accompanying simulations.

## II. TRAINING OBJECTIVES

Training objectives for the CATE/S observation system include:

1. Knowledge of teaching practices.
2. Recognition of presence of effective teaching practices.
3. Skill in application of knowledge of teaching practices.
4. Reliability in identifying teaching practices.
5. Reliability in judging quality of teaching practices.
6. Ability to analyze a set of data sources and diagnose areas of performance weakness.

### III. COMPUTER ASSISTED TEACHER EVALUATION/SUPERVISION FORMS CATE/S

80

Marking procedures: (the following are ESSENTIAL)

- \* Use a No. 2 pencil to complete this form.
- \* Fill the bubbles completely.
- \* Erase cleanly any changes.
- \* No written comments.
- \* Do not fold the form.

Information Section:

BLDG. CODE	TEACHER ID. NO.	EVALUATOR NO.	DATE		
			MO.	DAY	YR.
0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0	0	0
1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1	1	1
2 2 2	2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2	2 2 2 2	2	2
3 3 3	3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3	3 3 3 3	3	3
4 4 4	4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4	4 4 4 4	4	4
5 5 5	5 5 5 5 5 5 5 5 5 5	5 5 5 5 5 5 5 5 5 5	5 5 5 5	5	5
6 6 6	6 6 6 6 6 6 6 6 6 6	6 6 6 6 6 6 6 6 6 6	6 6 6 6	6	6
7 7 7	7 7 7 7 7 7 7 7 7 7	7 7 7 7 7 7 7 7 7 7	7 7 7 7	7	7
8 8 8	8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8	8 8 8 8	8	8
9 9 9	9 9 9 9 9 9 9 9 9 9	9 9 9 9 9 9 9 9 9 9	9 9 9 9	9	9

#### BLDG. CODE

Your presenter will provide you with the appropriate information, write in the correct number and pencil in the appropriate bubbles.

#### TEACHER ID. NO.

Write in YOUR Social Security Number and pencil in the corresponding bubble.

#### EVALUATOR NO.

The presenter will give you the identification number of the teacher on the video tape recorder, write in the correct number and pencil in the appropriate bubbles.

#### DATE (MO., DAY, YR.)

Write in today's date and pencil in the appropriate bubbles.

#### FOR TRAINING PURPOSES ONLY:

You will put in YOUR Social Security Number in the TEACHER ID. NO. and a TEACHER'S identification number for the EVALUATOR NO.

### Evaluation Section:

Carefully and completely fill in the appropriate bubbles. NEVER  
FILL IN BUBBLES 4-5-6-7 IN THE EVALUATION SECTION.

Rating Scale	1	2	3	
Not Observed - Appropriate	0	0	0	(no bubbles filled)
Not Observed - Inappropriate	X	0	0	(#1 bubble filled)
Observed - Unacceptable	0	X	0	(#2 bubble filled)
Observed - Acceptable	0	0	X	(#3 bubble filled)

	LOW						HIGH
The teacher ...							
1.	①	②	③	④	⑤	⑥	⑦
2.	①	②	③	④	⑤	⑥	⑦
3.	①	②	③	④	⑤	⑥	⑦
4.	①	②	③	④	⑤	⑥	⑦

### Ratings Explanation:

NOT OBSERVED - APPROPRIATE: The descriptor was not observed during the classroom observation and its absence did not detract from the quality of the instruction.

NOT OBSERVED - INAPPROPRIATE: The descriptor was not observed during the classroom observation and its absence did detract from the quality of the instruction.

OBSERVED - UNACCEPTABLE: The descriptor was observed during the lesson and it was below satisfactory.

OBSERVED - ACCEPTABLE: The descriptor was observed during the lesson and it was satisfactory or above.

[REMINDER: Any descriptor in which the bubbles are not filled in will be recorded as "Not Observed - Appropriate."]

IV. DEFINITION OF THE DESCRIPTORS (Classroom Observation Scan Form Only).

1. DEMONSTRATES EFFECTIVE PERSONAL ORGANIZATIONAL SKILLS.

The teacher shows evidence of adequate lesson preparation, organization of work, and knows how to maintain the attention of the students.

Examples:

The teacher sets high expectations for student achievement.

The teacher monitors student's attention and implements effective strategies as needed.

The teacher keeps the lesson "moving" and is prepared to apply appropriate alternatives.

2. ORGANIZES STUDENTS FOR EFFECTIVE INSTRUCTION.

The teacher groups students effectively.

Examples:

The teacher uses large and/or small groups appropriately.

The teacher gives groups equal and/or appropriate amounts of teacher time.

The teacher frequently assesses student progress for appropriate placement.

3. PROVIDES THE STRUCTURE FOR LEARNING

The teacher begins the lesson with an appropriate anticipatory set.

Examples:

The teacher creates student interest for a discovery lesson by beginning with a series of motivational questions.

"Today we are going to read about something that affects us everyday. I'll tell you if you are 'warm or cold' and you try to guess what it is!"

"Let's review what we covered yesterday, it will help you understand today's lesson."



4. STATES INSTRUCTIONAL OBJECTIVE(S).

The teacher clearly tells what the students are going to learn and why it is important to the student.

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Example:

"Today we are going to learn... Let's discuss why this is important in our everyday life."

Students are aware of why these skills or knowledge is applicable in everyday life.

The teacher may include an example or model a typical application of the objective that is relevant to the students.

5. PROVIDES SEQUENTIAL INPUT CONGRUENT WITH THE OBJECTIVES.

The teacher implements the lesson based on a task analysis of the concepts to be taught.

Example:

The teacher "builds" the lesson from one learning activity to another.

The teacher provides a variety of 'focused' learning experiences.

"Students, we have completed the two basic steps. Now let's put them together in order to solve a typical problem."

6. PROVIDES MODELING.

The teacher provides an exemplary demonstration or product of the process or product of what the students will be expected to produce or know.

Examples:

The teacher provides and/or demonstrates concrete examples of the skill and/or concept to be learned by the students.

The teacher provides a step-by-step (based on a task analysis) procedure to complete the desired task.

"Let's go over the procedure for making coil pots. Please follow along as I go through the steps and explain what I am doing."

7. PROVIDES OPPORTUNITIES FOR STUDENT PARTICIPATION.

All students should have an opportunity for information exchange during the lesson (i.e., show of hands, group and/or individual oral responses, hands-on experiments, etc.)

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Examples:

The teacher has students raise their hands or in some way "signal" if they agree or disagree with a concept.

The teacher has all students verbally or nonverbally respond to checking for understanding exercises.

The teacher calls on a variety of students for individual responses.

8. PROVIDES CLEAR DIRECTIONS.

The teacher clarifies to the students the necessary "what's," "how's," "when's," etc. in order that students may successfully complete the task.

Examples:

"Students, please do problems 1-10. I will leave the sample problems on the board so you may double check your procedures and remember to show your work. These will be due at the beginning of class tomorrow."

The teacher may ask students to repeat the assignment to assure that students have internalized the assignment.

The teacher checks student's work while they are working on the assignment to make sure students are "on track."

9. INCORPORATES EFFECTIVE QUESTIONING TECHNIQUES.

The teacher effectively probes student's knowledge and/or ideas by using appropriate questioning techniques.

Examples:

The teacher bases appropriate questions on the levels of Bloom's Taxonomy.

"List all the words that you can think of to describe your best friend."

"What were the significant series of events that lead to the signing of the Declaration of Independence."

10. PROVIDES OPPORTUNITIES FOR GUIDED PRACTICE.

The teacher monitors student's assignments to ensure they are correctly on task and provides assistance as needed.

Examples:

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The teacher walks around the room to check all (if possible) students work while they are at their desks.

The teacher will provide group reteaching if students are making common errors.

"Rosie and Harrison, will you please come to the table, I think you are very close but we need to spend a couple of minutes more on finding the square root of a number. Anyone else needing help feel free to join us."

11. CHECKS FOR STUDENT UNDERSTANDING.

The teacher incorporates strategies to "find out" if students understand the concepts taught, to determine the length of instruction, who is ready for the assignments and who needs reteaching, etc.

Examples:

The teacher ensures that initial student learning has occurred.

The teacher uses techniques to determine if time is needed to reteach, abandon, extend, or move on to another concept.

The teacher asks students questions about new learning before moving on to another concept.

12. PACES LESSON APPROPRIATELY AND/OR ADJUSTS AS NEEDED.

The teacher moves the lesson at a brisk pace that appears appropriate for the students.

Examples:

"Students, you have caught on to this lesson very quickly. I'll give you your assignment early and you should have it completed by the end of the class period."

"It appears that several of you are having difficulty with this concept. Do only problems 3, 7, and 12 for tomorrow. This will give you a chance to find out what you know or where you are having difficulties. I will reteach this lesson tomorrow."

The teacher uses feedback from the students to determine the appropriate "speed" of the lesson.

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13. GIVES SUPPORTIVE AND IMMEDIATE FEEDBACK TO STUDENTS.

The teacher frequently provides knowledge of results to the students concerning their level of success.

Examples:

The teacher constructively acknowledges student's responses to questions.

The teacher frequently writes notes on or orally praises student's work.

The teacher reviews progress with students on oral and written assessments (formal and informal) and develops appropriate recommendations.

14. PROVIDES ENRICHMENT/REMEDIATION/RETEACHING AS NEEDED.

The teacher meets individual needs (through group instructional techniques) and reteaches students that do not understand the concept.

Examples:

"Students finishing the assignment may work at the 'Challenge' table for bonus credit."

The teacher appropriately places students for various levels of reading instruction.

The teacher provides student additional instructional time to reteach a concept not learned by the student.

15. MODELS EFFECTIVE COMMUNICATION SKILLS.

The teacher speaks and writes appropriately for the learning process.

Examples:

The teacher models correct usage of the language.

The teacher's written communications and handouts are readable and grammatically correct.

The teacher sets a high standard for classroom communication skills.

16. PREPARES APPROPRIATE EVALUATION ACTIVITIES.

The teacher uses quizzes, chapter/unit test, and standardized test for assessing student progress and appropriate decision making.

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Examples:

The teacher makes methods of evaluation clear, purposeful, and reflects course content.

The teacher monitors student progress through a series of formative and summative evaluation techniques.

"Students, this concept is very important and a typical test question on this would be, '-----'."

17. DISPLAYS A THOROUGH KNOWLEDGE OF THE SUBJECT MATTER.

The teacher supports the objective(s) by using appropriate examples, incorporates accurate and up-to-date information.

Examples:

The teacher uses consistent vocabulary appropriate to the subject matter and curriculum guides.

The teacher includes current information or news articles to enhance instructional materials (i.e., N.A.S.A. releases, Mount St. Helen's activities, Middle East hijacking, etc. )

The teacher can answer various students' questions appropriately.

18. INCORPORATES TECHNIQUES TO MOTIVATE STUDENTS.

The teacher uses techniques designed to help students maintain focus on the tasks.

Examples:

"Sharon, you have worked extra hard in understanding... I know you are ready to redo the problems on pages 66 and 67. If they are on my desk Monday morning, you can earn full credit for your work."

The teacher incorporates various teaching styles to accomodate different students learning styles.

The teacher provides a climate that ensures involvement and success for all students.

**19. ENSURES STUDENTS TIME ON TASK.**

The teacher uses available class time to achieve the instructional objectives.

**Examples:**

The teacher has students enter the room in an orderly manner and are ready to begin learning activities.

The teacher minimizes classroom management duties so that they are completed efficiently and effectively.

The teacher provides an environment that fosters and rewards student's work habits as well as productivity.

**20. MAINTAINS HIGH STANDARDS FOR STUDENTS' BEHAVIOR.**

The teacher establishes rules for students' behavior and promotes students' self-discipline.

**Examples:**

"Students, it is the beginning of the year, let's decide what behaviors are needed for our classroom."

The teacher gives students practice in self-discipline.

The teacher monitors behavior carefully and continuously throughout the year.

**21. DEMONSTRATES SENSITIVITY IN RELATING TO STUDENTS.**

The teacher contributes to student's self-esteem by the manner in which they relate to students.

**Examples:**

The teacher calls students by name as much as possible and may also relate to their interests.

The teacher demonstrates common courtesies to students (i.e., "please," "thank you," "you're welcome," etc.)

"I appreciate what you have done. Thank you!"

22. DEMONSTRATES EQUITABLE TREATMENT OF ALL STUDENTS.

The teacher provides equal treatment to all students regardless of race, creed, color, ability, appearance, sex, etc.

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Examples:

The teacher treats high achieving students as equally as low achieving students.

The teacher does not demonstrate a perceived difference in the cognitive ability levels based on sexism.

The teacher demonstrates no perceived biases based on creed, color, or socio-economic status, etc., of the student.

APPENDIX C.

WORKSHOP PLANNER (IOWA), JUNE 29, 30, JULY 1, 2



GROUP OR  
SCHOOL: Summer Workshop - Making Good Schools Better

DATE(S): June 29, 30, July 1, 2, 1987

ATTENDING: Teachers and Administrators

LOCATION: Schuman Center - Iowa State Center

DAY ONE (June 29)

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of 4

## WORKSHOP PLANNER

# SIM

School Improvement Model

Co-Director: Richard P. Manatt, Ph.D.  
Co-Director: Shirley B. Stow, Ph.D.  
(Iowa State University)

TIME	TOPIC	PRESENTER	MODE	VISUALS	HANDOUTS	REMARKS
8:00am	Registration					Fisher Theater
8:30am	Effective School Characteristics	Brookover	LGI		Workbook	Fisher Theater
9:30am	BREAK					
9:45am	Parent Appraisal of the School District	Story	SGI		Workbook	Room 175
	A Chat with Professor Brookover	Brookover	SGI		Workbook	Room 179
11:45am	LUNCH	OYO				
1:15pm	Computer Assisted Teacher Evaluation/Supervision (CATE/S)	Roth	SGI	Computer	Workbook	Room 175
	A Preview of Administrator Performance Evaluation (AASA Videotapes)	Lucas	SGI	O/H Videotapes	Workbook	Room 179
	<u>ACTION LABS</u>					
9:45-11:45am	Evaluating and Improving Teacher Performance	Manatt	SGI	O/H Videotape	Workbook	Rooms 150-154
1:15-3:15pm	The Coaching Process	Stow	SGI	O/H Videotape	Workbook	Room 167
	<u>CRACKER BARREL SESSION</u>					
6:30-8:30pm	Lessons from the School Improvement Model Projects	Manatt & Stow				Stagedoor 190

GROUP OR Summer Workshop - Making Good Schools Better  
SCHOOL: \_\_\_\_\_

DATE(S): June 29, 30, July 1, 2, 1987

ATTENDING: Teachers and Administrators

LOCATION: Scheman Center - Iowa State Center

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of 4

## WORKSHOP PLANNER

**SIM**

School Improvement Model

Co-Director: Richard P. Manatt, Ph.D.  
Co-Director: Shirley B. Stow, Ph.D.  
(Iowa State University)

### DAY TWO (June 30)

TIME	TOPIC	PRESENTER	MODE	VISUALS	HANDOUTS	REMARKS
8:30am	Positive Supervision	Sweeney	LGI	O/H	Workbook	Benton Auditorium
9:30am	BREAK					
9:45am	Teacher Expectations and Student Achievement (TESA)	Peterson	SGI	O/H Videotape	Workbook	Room 179
	Evaluation of Entry-Level Teachers	Palmer	SGI	O/H Videotape	Workbook	Room 175
11:45am	LUNCH	OYO				
1:15pm	Board Performance Evaluation	Netusil	SGI	O/H	Workbook	Room 175
	The Answer to Classroom Observation: COG	Semones	SGI	O/H Videotape	Workbook	Room 179
	<u>ACTION LABS</u>					
9:45-11:45am 1:15-3:15pm	Evaluating and Improving Teacher Performance	Manatt	SGI	O/H Videotape	Workbook	Rooms 150-154
9:45-11:45am	The Coaching Process	Stow	SGI	O/H Videotape	Workbook	Room 167
3:15pm	Dismissal					
6:30-8:30pm	Tape Festival	Lucas		Videotapes		Rooms 175-179

GROUP OR  
SCHOOL: Summer Workshop - Making Good Schools Better

DATE(S): June 29, 30, July 1, 2, 1987

ATTENDING: Teachers and Administrators

LOCATION: Scheman Center - Iowa State Center

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## WORKSHOP PLANNER

SIM

School Improvement Model

Co-Director: Richard P. Manatt, Ph.D.  
Co-Director: Shirley B. Stow, Ph.D.  
(Iowa State University)

### DAY THREE (July 1)

TIME	TOPIC	PRESENTER	MODE	VISUALS	HANDOUTS	REMARKS
8:30am	An Exemplary Staff Development Program	Lepley	LGI	O/H	Workbook	Benton Auditorium
9:30am	BREAK					
9:45am	Critical Thinking--An Intervention	Giese	SGI	O/H	Workbook	Room 179
	Performance Evaluation of Principals--Why Springfield Was the Model for AASA	Denney	SGI	O/H	Workbook	Room 175
11:45am	LUNCH	OYO				
1:15pm	Effective Teaching: What is it for Special Education?	Frudden	LGI	O/H Videotape	Workbook	(This session will be part of Action Lab I held in Rooms 150-154)
	Program for Effective Teaching (PET)	Lucas	LGI	Videotape O/H	Workbook	Room 179
	<u>ACTION LABS</u>					
9:45-11:45am 1:15-3:15pm	Evaluating and Improving Teacher Performance	Manatt	SGI	O/H Videotape	Workbook	Rooms 150-154
9:45-11:45am	The Coaching Process	Stow	SGI	O/H Videotape	Workbook	Room 167
3:15pm	Dismissal					

GROUP OR  
SCHOOL: Summer Workshop - Making Good Schools Better

DATE(S): June 29, 30, July 1, 2, 1987

ATTENDING: Teachers and Administrators

LOCATION: Scheman Center - Iowa State Center

DAY FOUR (July 2, 1987)

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of 4

## WORKSHOP PLANNER

# SIM

School Improvement Model

Co-Director: Richard P. Manatt, Ph.D.  
Co-Director: Shirley B. Stow, Ph.D.  
(Iowa State University)

TIME	TOPIC	PRESENTER	MODE	VISUALS	HANDOUTS	REMARKS
8:30am	Performance-Based Compensation: A Study	Boyles	LGI	O/H	Workbook	Benton Auditorium
9:30am	BREAK					94
9:45am	Instructional Leaders: Opportunities for Renewal	Bellon	SGI	O/H	Workbook	Room 179
	Intensive Assistance for Marginal Teachers	Moran	SGI	O/H Slides	Workbook	Room 175
11:45am	LUNCH	OYO				
1:15pm	Instructional Leadership in the Changing Workplace	Bellon	SGI	O/H	Workbook	Benton Auditorium (Postnote)
9:45-11:45am	Evaluating and Improving Teacher Performance	Manatt	SGI	O/H Videotape	Workbook	Rooms 150-154
9:45-11:45am	The Coaching Process	Stow	SGI	O/H Videotape	Workbook	Room 167
2:15pm	Test Administration	Manatt	LGI			Benton Auditorium
3:00pm	Dismissal					

APPENDIX D. HUMAN SUBJECT RELEASE

Human Subject Release

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this project and concluded that the rights and welfare of the human subjects were adequately protected. The following statement was to be read to each participant:

Today you will participate in training to improve your classroom observation skills. Because the data collected during training will compare your previous data gathering skills with your skills after having practiced the new data gathering technique, you have a right to refuse to participate in the pre- and posttesting. Your decision to participate in this training is greatly appreciated as most educators want an improved technique to gather data as they observe in classrooms. If you are willing to take part in this undertaking, please turn in your materials at the close of the exercise.

Submitting the materials will be construed as a modified consent to participate.

If you do not choose to participate, simply retain your materials at the end of the exercise.

APPENDIX E. REGISTRATION CARD

(Please Print)

Name: \_\_\_\_\_ ☐ Female ☐ Male

Mailing Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Teaching major? \_\_\_\_\_

Years of experience as a teacher evaluator? \_\_\_\_\_

Number of days of teacher evaluation training? \_\_\_\_\_

Number of days of training with Dr. Manatt? \_\_\_\_\_

Pre-training score

Post-training score

\_\_\_\_\_



APPENDIX F.  
TIMELINE FORMAT FOR CLASSROOM DATA CAPTURE

### TIMELINE FORMAT (CLINICAL)

CONCLUSIONS		NARRATIVE	CONFERENCE QUESTIONS
	Time	100	(What, When, Why, How?)
<b>RECAP</b> <u>Strengths</u> 1. 2. 3.  <u>Things to Change</u> 1. 2. 3.		<b>RECAP</b> TOTAL: (1) One thing to reinforce  ENGAGED: (2) One behavioral objective for change	<b>PLANS</b> Techniques I will use:

APPENDIX G.  
REVIEW OF RESEARCH ON TEACHING (PLACEBO)

Richard P. Manatt  
Iowa State University

## A REVIEW OF RESEARCH ON TEACHING\*

Teaching is a highly cognitive activity that requires an extraordinary level of competence for making decisions in complex and dynamic environments. The following factors are ones that can be controlled or influenced by teachers and are known to affect student behavior, attitudes and achievement.

### **I. Preinstructional Factors.**

A set of complex decisions must be made, primarily, before instruction takes place. Teachers need to be aware of how certain decisions facilitate or retard achievement, affect attitudes of students and impact on student behavior.

Among the most powerful are:

A. Content Decisions--The opportunity to learn a given content area is a potent variable in accounting for student achievement in that area. While the teacher has considerable autonomy as to what gets taught in the classroom, these content decisions are often made very casually.

1. Objective--Content is usually divided into strands (or important goals). These goals are reduced to a series of objectives through task analysis. Objectives are stated in terms of learner behaviors.

B. Time Allocation Decisions--There is much empirical evidence relating allocated time to achievement; however, there is an incredible variation in the time allocations made by different teachers.

C. Pacing Decisions--The more a teacher teaches, the more students seem to learn. However, again there is a wide variability across classrooms as to the pace of instruction.

D. Grouping Decisions--The size and composition of work groups affect achievement. Teachers sometimes use irrelevant criteria as the basis for group assignment and these assignments can be of long duration.

E. Decisions About Activity Structures--Teachers must choose between recitation, lecture, discussion, reading circle, computer-mediated instruction, seatwork, etc. Teachers need to be aware of how each activity structure limits or enhances instruction and achievement.

### **II. During-Instruction Factors**

When teachers are working with students, scores of factors affect whether or not learning will occur. Among these are a few that seem to be powerful and replicable.

\*Thanks to David Berliner of the University of Arizona for the original four-part construct.

A. Engaged Time--Engaged time, or time on task, has been found to be a consistent predictor of achievement.

1. Method of teaching selected by the teacher is a decision that specifies what the teacher will do; what the learner will do. The decision is first made under I-E above and then is refined during class time.

B. Time Management--Management of classroom time to achieve higher student engaged rates can be accomplished by giving teachers feedback about this important variable.

C. Monitoring Success Rate--There is a strong, positive relationship between high success rates and student achievement. Like other classroom variables, success rate needs to be monitored, evaluated and often modified.

D. Academic Learning Time (ALT)--ALT is time engaged with relevant materials or activities at a high success rate. Students and classes with high levels of ALT are likely to achieve more than those with lower accumulations of ALT.

1. Practice--two kinds, guided and independent, provide the controlled redundancy (over-learning) to assure high achievement.
2. Modeling--is perhaps the most relevant activity for the teacher. However, with advanced learners or very heterogeneous groups, "showing how" is an important activity for students.

E. Monitoring--In many cases students have been found to work alone about 50% of the time. There is often little substantive interaction between the student and teacher. Several studies have shown that the greater the number of substantive interactions that take place, the more likely it is students will achieve academically.

1. Checking for Understanding--"probing," "dipsticking" the teacher monitors the learning so that s/he can adjust the teaching.

F. Structuring--Both success rate and attention are improved when teachers spend more time structuring the lesson and giving directions.

1. Transitions--how the teacher moves from activity to activity, concept to concept. The intent is to provide smooth, relatively brief, transitions.
2. Clarity--input by the teacher or media is understandable, well communicated. The teacher is fluent.
3. Structuring Comments--cueing, advance organizers, group alerting. "This is so important I want you to remember it when you forget who taught it to you!"

G. Questioning--The cognitive level of the questions teachers ask is very low. While high levels of lower-order questions seem to correlate positively with achievement for students of lower socio-economic standing, many students will achieve considerably more if asked higher-order questions. Teachers appear to need more experience in classifying questions and answers. (Bloom's Taxonomy is one way of categorizing levels of thinking.)

H. Wait Time--Related to questioning, an appropriate amount of time after asking a question results in increased appropriateness of the response, increased confidence in responding, an increase in the variety of responses and in the cognitive level of responses.

I. Summary--is intended to give closure, to insure review such that all of the pieces fit together. Summary is too often brief or absent.

### III. Climate Factors

"Climate" describes the characteristics of classroom environments that appear to lead to achievement. Following are four factors that seem particularly important.

A. Communicating Academic Expectations for Achievement--The literature on expectancy effects is consistently interpreted to show that when teachers set high but obtainable goals for academic performance, academic achievement usually increases. If performance goals are low, academic achievement usually decreases.

B. Developing A Safe, Orderly and Academically Focused Environment For Work--The evidence on effective classrooms and effective schools is amazingly congruent. There is always an indicator of higher achievement in classes or schools where there is present an orderly, safe environment, a business-like manner among the teachers, and a school-wide system that reflects thoughtfulness in promulgating academic programs, focuses on achievement, holds students accountable for achievement, and rewards achievement.

C. Sensible Management of Deviance--In a workplace free from deviance and in which students attend to their assignments, a climate is created that results in increased achievements through a reduction of time lost due to management problems.

D. Developing Cooperative Learning Environments--The use of cooperative, heterogeneous groups usually improves cooperative behavior among students of different social classes, races, sexes, or different abilities and often improves academic achievement as well.

### IV. Post-Instructional Factors

There are several teaching practices that typically occur after an instructional episode is completed which relate to achievement. Four of these are listed below.

A. Tests--Recent research indicates that if teachers, schools and districts are to ever look effective, they must learn to use tests that accurately reflect what they teach. The congruence between what is taught and what is tested must be high.

B. Grades--The evidence is persuasive that grades do motivate students to learn more in a given subject area. The judicious use of grades that are tied to objective performance appears to be related to increased achievement and positive student attitudes.

C. Feedback--Substantial use of corrective feedback in the academic areas, contingent praise for correct or proper behavior, and the use of students' ideas as a way of letting students know their contributions are valued, all show positive relations to achievement and attitude.

D. Evaluation--both formative and summative to determine the success of both the teacher and the learner. Formative evaluation is monitoring and questioning. Summative evaluation serves a sorting, comparative purpose to assign grades and to determine the success of instruction.

APPENDIX H.  
ON-SITE CATE/S COMPUTER GROUP RESULTS

IOWA  
"BOB JOHNSON"

## Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 06-29-87. TIME: 02:41:01.

## Staff Report

Compiled from information in summative evaluation data file.

## COMPOSITE REPORT - ALL BUILDINGS AND ALL EVALUATORS COMBINED.

ID	AREA	CRITERION DESCRIPTION	RATING				TOTAL	AVG. RTG.	STD. DEV.
			$\phi$	1	2	3			
1	1	Demonstrates effective personal organizational skills.	3	5	12	7	24	2.1	0.72
2	2	Organizes students for effective instruction.	11	5	8	3	16	1.9	0.72
3	3	Provides the structure for learning.	7	7	10	3	20	1.8	0.70
4	4	States instructional objective(s).	7	8	7	5	20	1.9	0.81
5	5	Provides sequential input congruent with objectives.	5	6	8	8	22	2.1	0.81
6	6	Provides modeling.	5	1	10	11	22	2.5	0.60
7	7	Provides opportunities for student participation.	2	1	17	7	25	2.2	0.52
8	8	Provides clear directions.	5	2	18	2	22	2.0	0.44
9	9	Incorporates effective questioning techniques.	4	1	17	5	23	2.2	0.49
10	10	Provides opportunities for guided practice.	14	6	3	4	13	1.8	0.90
11	11	Checks for student understanding.	4	4	12	7	23	2.1	0.69
12	12	Paces lesson appropriately and/or adjusts as needed.	7	3	14	3	20	2.0	0.56
13	13	Gives supportive and immediate feedback to students.	6	3	13	5	21	2.1	0.62
14	14	Provides enrichment/remediation/reteaching as needed.	14	8	5	0	13	1.4	0.51
15	15	Models effective communication skills.	4	3	17	3	23	2.0	0.52
16	16	Prepares appropriate evaluation activities.	12	9	2	1	12	1.3	0.65
17	17	Displays a thorough knowledge of the subject matter.	3	0	5	19	24	2.8	0.41
18	18	Incorporates techniques to motivate students.	1	11	10	5	26	1.8	0.76
19	19	Ensures student time on task.	7	8	10	2	20	1.7	0.66
20	20	Maintains high standards for student behavior.	5	11	9	2	22	1.6	0.67
21	21	Demonstrates sensitivity in relating to students.	4	8	6	9	23	2.0	0.89
22	22	Demonstrates equitable treatment of all students.	6	4	5	12	21	2.4	0.80
23	23	Overall Rating	21	0	5	1	6	2.2	0.41

SD  $\Sigma X$  = 14.44 $\bar{X}$  SD = .66



IOWA  
"PAGE 1"

Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 09-02-87. TIME: 03:43:29.

Staff Report

Compiled from information in summative evaluation data file.

COMPOSITE REPORT - ALL BUILDINGS AND ALL EVALUATORS COMBINED.

ID	AREA	CRITERION DESCRIPTION	RATING			TOTAL	AVG. RTG.	STD. DEV.
			1	2	3			
1	1	Demonstrates effective personal organizational skills.	0	0	28	28	3.0	0.00
2	2	Organizes students for effective instruction.	0	1	21	22	3.0	0.21
3	3	Provides the structure for learning.	0	0	27	27	3.0	0.00
4	4	States instructional objective(s).	2	2	21	25	2.8	0.60
5	5	Provides sequential input congruent with objectives.	0	1	24	25	3.0	0.20
6	6	Provides modeling.	0	1	25	26	3.0	0.20
7	7	Provides opportunities for student participation.	0	0	28	28	3.0	0.00
8	8	Provides clear directions.	0	0	27	27	3.0	0.00
"	9	Incorporates effective questioning techniques.	0	4	23	27	2.9	0.36
	10	Provides opportunities for guided practice.	0	1	26	27	3.0	0.19
11	11	Checks for student understanding.	0	2	26	28	2.9	0.26
12	12	Paces lesson appropriately and/or adjusts as needed.	0	2	23	25	2.9	0.28
13	13	Gives supportive and immediate feedback to students.	0	0	28	28	3.0	0.00
14	14	Provides enrichment/remediation/reteaching as needed.	0	1	19	20	3.0	0.22
15	15	Models effective communication skills.	0	6	21	27	2.8	0.42
16	16	Prepares appropriate evaluation activities.	0	0	15	15	3.0	0.00
17	17	Displays a thorough knowledge of the subject matter.	0	0	27	27	3.0	0.00
18	18	Incorporates techniques to motivate students.	0	3	16	19	2.8	0.37
19	19	Ensures student time on task.	0	0	27	27	3.0	0.00
20	20	Maintains high standards for student behavior.	0	0	20	20	3.0	0.00
21	21	Demonstrates sensitivity in relating to students.	0	0	26	26	3.0	0.00
22	22	Demonstrates equitable treatment of all students.	0	4	23	27	2.9	0.36
23	23	Overall Rating	0	0	9	9	3.0	0.00

SD  $\Sigma X = 3.67$

$\bar{X}$  SD = .17

IOWA  
"PAGE II"

## Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 06-30-87. TIME: 15:05:06.

## Staff Report

Compiled from information in summative evaluation data file.

## COMPOSITE REPORT - ALL BUILDINGS AND ALL EVALUATORS COMBINED.

ID	AREA	CRITERION DESCRIPTION	RATING			TOTAL	AVG. RTG.	STD. DEV.
			1	2	3			
1	1	Demonstrates effective personal organizational skills.	1	0	0	26	3.0	0.00
2	2	Organizes students for effective instruction.	5	0	0	22	3.0	0.00
3	3	Provides the structure for learning.	3	0	1	23	3.0	0.20
4	4	States instructional objective(s).	6	0	0	21	3.0	0.00
5	5	Provides sequential input congruent with objectives.	3	0	0	24	3.0	0.00
6	6	Provides modeling.	8	0	1	18	2.9	0.23
7	7	Provides opportunities for student participation.	1	0	0	26	3.0	0.00
8	8	Provides clear directions.	4	0	0	23	3.0	0.00
9	9	Incorporates effective questioning techniques.	2	0	1	24	3.0	0.20
10	10	Provides opportunities for guided practice.	4	0	1	22	3.0	0.21
11	11	Checks for student understanding.	5	0	0	22	3.0	0.00
12	12	Paces lesson appropriately and/or adjusts as needed.	4	0	1	22	3.0	0.21
13	13	Gives supportive and immediate feedback to students.	0	0	0	27	3.0	0.00
14	14	Provides enrichment/remediation/reteaching as needed.	8	0	2	17	2.9	0.32
15	15	Models effective communication skills.	4	0	2	21	2.9	0.29
16	16	Prepares appropriate evaluation activities.	13	1	1	12	2.8	0.58
17	17	Displays a thorough knowledge of the subject matter.	1	0	1	25	3.0	0.20
18	18	Incorporates techniques to motivate students.	7	3	1	16	2.7	0.75
19	19	Ensures student time on task.	1	0	0	26	3.0	0.00
20	20	Maintains high standards for student behavior.	4	0	0	21	3.0	0.00
21	21	Demonstrates sensitivity in relating to students.	4	0	1	22	3.0	0.21
22	22	Demonstrates equitable treatment of all students.	2	0	1	24	3.0	0.20
23	23	Overall Rating	0	0	8	8	3.0	0.00

 $\bar{X}$  SD = .16

PENNSYLVANIA"PAGE 1"

## Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 09-02-87. TIME: 04:16:25.

## Staff Report

Compiled from information in summative evaluation data file.

## REPORT FOR BUILDING # 006, f

This report combines all evaluators in this building.

ID	AREA	CRITERION DESCRIPTION	RATING			TOTAL	AVG. RTG.	STD. DEV.
			1	2	3			
1	1	Demonstrates effective personal organizational skills.	0	0	2	2	3.0	0.00
2	2	Organizes students for effective instruction.	0	0	1	1	3.0	0.00
3	3	Provides the structure for learning.	0	0	2	2	3.0	0.00
4	4	States instructional objective(s).	0	0	2	2	3.0	0.00
5	5	Provides sequential input congruent with objectives.	0	0	2	2	3.0	0.00
6	6	Provides modeling.	0	0	1	1	3.0	0.00
7	7	Provides opportunities for student participation.	0	0	2	2	3.0	0.00
8	8	Provides clear directions.	0	0	2	2	3.0	0.00
9	9	Incorporates effective questioning techniques.	0	0	1	1	3.0	0.00
10	10	Provides opportunities for guided practice.	0	0	2	2	3.0	0.00
11	11	Checks for student understanding.	0	0	2	2	3.0	0.00
12	12	Paces lesson appropriately and/or adjusts as needed.	0	0	2	2	3.0	0.00
13	13	Gives supportive and immediate feedback to students.	0	0	2	2	3.0	0.00
14	14	Provides enrichment/remediation/reteaching as needed.	0	0	2	2	3.0	0.00
15	15	Models effective communication skills.	0	0	1	1	3.0	0.00
16	16	Prepares appropriate evaluation activities.	0	0	2	2	3.0	0.00
17	17	Displays a thorough knowledge of the subject matter.	0	0	2	2	3.0	0.00
18	18	Incorporates techniques to motivate students.	0	0	1	1	3.0	0.00
19	19	Ensures student time on task.	0	0	2	2	3.0	0.00
20	20	Maintains high standards for student behavior.	0	0	1	1	3.0	0.00
21	21	Demonstrates sensitivity in relating to students.	0	0	2	2	3.0	0.00
22	22	Demonstrates equitable treatment of all students.	0	0	2	2	3.0	0.00
23	23	Overall Rating	0	0	1	1	3.0	0.00

PENNSYLVANIA"PAGE II"

Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 09-02-87. TIME: 04:56:45.

## Staff Report

Compiled from information in summative evaluation data file.

## COMPOSITE REPORT - ALL BUILDINGS AND ALL EVALUATORS COMBINED.

ID	AREA	CRITERION DESCRIPTION	RATING			TOTAL	AVG. RTG.	STD. DEV.
			1	2	3			
1	1	Demonstrates effective personal organizational skills.	0	0	23	23	3.0	0.00
2	2	Organizes students for effective instruction.	0	2	15	17	2.9	0.33
3	3	Provides the structure for learning.	1	0	15	16	2.9	0.50
4	4	States instructional objective(s).	0	5	18	23	2.8	0.42
5	5	Provides sequential input congruent with objectives.	0	2	21	23	2.9	0.29
6	6	Provides modeling.	0	1	22	23	3.0	0.21
7	7	Provides opportunities for student participation.	0	1	22	23	3.0	0.21
8	8	Provides clear directions.	0	1	21	22	3.0	0.21
9	9	Incorporates effective questioning techniques.	0	4	18	22	2.8	0.39
10	10	Provides opportunities for guided practice.	0	0	23	23	3.0	0.00
11	11	Checks for student understanding.	0	0	22	22	3.0	0.00
12	12	Paces lesson appropriately and/or adjusts as needed.	0	4	18	22	2.8	0.39
13	13	Gives supportive and immediate feedback to students.	0	0	21	21	3.0	0.00
14	14	Provides enrichment/remediation/reteaching as needed.	1	5	12	18	2.6	0.61
15	15	Models effective communication skills.	0	3	19	22	2.9	0.35
16	16	Prepares appropriate evaluation activities.	1	0	10	11	2.8	0.60
17	17	Displays a thorough knowledge of the subject matter.	0	0	23	23	3.0	0.00
18	18	Incorporates techniques to motivate students.	1	2	16	19	2.8	0.54
19	19	Ensures student time on task.	0	1	21	22	3.0	0.21
20	20	Maintains high standards for student behavior.	0	0	20	20	3.0	0.00
21	21	Demonstrates sensitivity in relating to students.	0	0	22	22	3.0	0.00
22	22	Demonstrates equitable treatment of all students.	0	2	21	23	2.9	0.29
23	23	Overall Rating	0	0	22	22	3.0	0.00

SD  $\Sigma X = 5.55$  $\bar{X}$  SD = .25

KANSAS  
"PAGE 1"

Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 09-02-87. TIME: 04:21:01.

Staff Report

Compiled from information in summative evaluation data file.

COMPOSITE REPORT - ALL BUILDINGS AND ALL EVALUATORS COMBINED.

ID	AREA	CRITERION DESCRIPTION	RATING			TOTAL	AVG. RTG.	STD. DEV.
			1	2	3			
1	1	Demonstrates effective personal organizational skills.	0	0	8	8	3.0	0.00
2	2	Organizes students for effective instruction.	0	0	5	5	3.0	0.00
3	3	Provides the structure for learning.	0	0	8	8	3.0	0.00
4	4	States instructional objective(s).	2	0	1	3	1.7	1.15
5	5	Provides sequential input congruent with objectives.	2	0	6	8	2.5	0.93
6	6	Provides modeling.	0	0	8	8	3.0	0.00
7	7	Provides opportunities for student participation.	0	1	7	8	2.9	0.35
8	8	Provides clear directions.	0	0	8	8	3.0	0.00
9	9	Incorporates effective questioning techniques.	0	1	7	8	2.9	0.35
10	10	Provides opportunities for guided practice.	0	0	8	8	3.0	0.00
11	11	Checks for student understanding.	0	0	8	8	3.0	0.00
12	12	Paces lesson appropriately and/or adjusts as needed.	0	0	8	8	3.0	0.00
13	13	Gives supportive and immediate feedback to students.	0	0	8	8	3.0	0.00
14	14	Provides enrichment/remediation/reteaching as needed.	0	0	8	8	3.0	0.00
15	15	Models effective communication skills.	0	2	6	8	2.8	0.46
16	16	Prepares appropriate evaluation activities.	0	0	4	4	3.0	0.00
17	17	Displays a thorough knowledge of the subject matter.	0	0	8	8	3.0	0.00
18	18	Incorporates techniques to motivate students.	0	2	6	8	2.8	0.46
19	19	Ensures student time on task.	0	0	8	8	3.0	0.00
20	20	Maintains high standards for student behavior.	0	0	4	4	3.0	0.00
21	21	Demonstrates sensitivity in relating to students.	0	0	8	8	3.0	0.00
22	22	Demonstrates equitable treatment of all students.	0	3	4	7	2.6	0.53
23	23	Overall Rating	0	0	0	0	-. -	-. -

KANSAS  
"PAGE II"

Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 09-02-87. TIME: 04:40:36.

Staff Report

Compiled from information in summative evaluation data file.

COMPOSITE REPORT - ALL BUILDINGS AND ALL EVALUATORS COMBINED.

ID	AREA	CRITERION DESCRIPTION	RATING			TOTAL	AVG. RTG.	STD. DEV.
			1	2	3			
1	1	Demonstrates effective personal organizational skills.	0	0	7	7	3.0	0.00
2	2	Organizes students for effective instruction.	5	1	1	7	1.4	0.79
3	3	Provides the structure for learning.	0	3	5	8	2.6	0.52
4	4	States instructional objective(s).	0	2	6	8	2.8	0.46
5	5	Provides sequential input congruent with objectives.	0	0	8	8	3.0	0.00
6	6	Provides modeling.	0	0	8	8	3.0	0.00
7	7	Provides opportunities for student participation.	0	0	8	8	3.0	0.00
8	8	Provides clear directions.	0	0	8	8	3.0	0.00
9	9	Incorporates effective questioning techniques.	0	0	8	8	3.0	0.00
10	10	Provides opportunities for guided practice.	0	2	6	8	2.8	0.46
11	11	Checks for student understanding.	0	2	6	8	2.8	0.46
12	12	Paces lesson appropriately and/or adjusts as needed.	1	2	4	7	2.4	0.79
13	13	Gives supportive and immediate feedback to students.	0	0	8	8	3.0	0.00
14	14	Provides enrichment/remediation/reteaching as needed.	4	1	0	5	1.2	0.45
15	15	Models effective communication skills.	0	0	8	8	3.0	0.00
16	16	Prepares appropriate evaluation activities.	1	0	4	5	2.6	0.89
17	17	Displays a thorough knowledge of the subject matter.	0	0	8	8	3.0	0.00
18	18	Incorporates techniques to motivate students.	1	1	6	8	2.6	0.74
19	19	Ensures student time on task.	0	0	8	8	3.0	0.00
20	20	Maintains high standards for student behavior.	0	0	8	8	3.0	0.00
21	21	Demonstrates sensitivity in relating to students.	0	0	8	8	3.0	0.00
22	22	Demonstrates equitable treatment of all students.	0	1	7	8	2.9	0.35
23	23	Overall Rating	0	0	1	1	3.0	0.00

IOWA, PENNSYLVANIA, KANSAS"PAGE I"

Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 09-02-87. TIME: 04:34:47.

## Staff Report

Compiled from information in summative evaluation data file.

## COMPOSITE REPORT - ALL BUILDINGS AND ALL EVALUATORS COMBINED.

ID	AREA	CRITERION DESCRIPTION	RATING			TOTAL	AVG. RTG.	STD. DEV.
			1	2	3			
1	1	Demonstrates effective personal organizational skills.	0	3	75	78	3.0	0.19
2	2	Organizes students for effective instruction.	2	4	48	54	2.9	0.45
3	3	Provides the structure for learning.	0	0	77	77	3.0	0.00
4	4	States instructional objective(s).	19	6	43	68	2.4	0.89
5	5	Provides sequential input congruent with objectives.	6	2	63	71	2.8	0.58
6	6	Provides modeling.	0	4	68	72	2.9	0.23
7	7	Provides opportunities for student participation.	0	5	72	77	2.9	0.25
8	8	Provides clear directions.	0	0	72	72	3.0	0.00
9	9	Incorporates effective questioning techniques.	0	16	57	73	2.8	0.42
10	10	Provides opportunities for guided practice.	0	4	73	77	2.9	0.22
11	11	Checks for student understanding.	0	6	70	76	2.9	0.27
12	12	Paces lesson appropriately and/or adjusts as needed.	1	11	57	69	2.8	0.43
13	13	Gives supportive and immediate feedback to students.	0	0	77	77	3.0	0.00
14	14	Provides enrichment/remediation/reteaching as needed.	2	5	57	64	2.9	0.43
15	15	Models effective communication skills.	0	20	54	74	2.7	0.45
16	16	Prepares appropriate evaluation activities.	0	2	43	45	3.0	0.21
17	17	Displays a thorough knowledge of the subject matter.	0	0	76	76	3.0	0.00
18	18	Incorporates techniques to motivate students.	14	11	36	61	2.4	0.84
19	19	Ensures student time on task.	1	6	68	75	2.9	0.35
20	20	Maintains high standards for student behavior.	1	0	55	56	3.0	0.27
21	21	Demonstrates sensitivity in relating to students.	0	2	69	71	3.0	0.17
22	22	Demonstrates equitable treatment of all students.	6	18	49	73	2.6	0.64
23	23	Overall Rating	0	1	33	34	3.0	0.17

$$SD \leq X = 7.29$$

$$\bar{X} SD = .33$$

IOWA, PENNSYLVANIA, KANSAS"PAGE II"

Computer Assisted Teacher Evaluation / Supervision (CATE/S)

DATE: 09-02-87. TIME: 05:13:24.

## Staff Report

Compiled from information in summative evaluation data file.

## COMPOSITE REPORT - ALL BUILDINGS AND ALL EVALUATORS COMBINED.

ID	AREA	CRITERION DESCRIPTION	RATING			TOTAL	AVG. RTG.	STD. DEV.
			1	2	3			
1	1	Demonstrates effective personal organizational skills.	0	1	78	79	3.0	0.11
2	2	Organizes students for effective instruction.	5	4	61	70	2.8	0.55
3	3	Provides the structure for learning.	1	5	65	71	2.9	0.34
4	4	States instructional objective(s).	0	8	73	81	2.9	0.30
5	5	Provides sequential input congruent with objectives.	0	3	78	81	3.0	0.19
6	6	Provides modeling.	0	3	74	77	3.0	0.19
7	7	Provides opportunities for student participation.	0	3	78	81	3.0	0.19
8	8	Provides clear directions.	0	3	77	80	3.0	0.19
9	9	Incorporates effective questioning techniques.	0	7	73	80	2.9	0.28
10	10	Provides opportunities for guided practice.	0	6	75	81	2.9	0.26
11	11	Checks for student understanding.	0	3	76	79	3.0	0.19
12	12	Paces lesson appropriately and/or adjusts as needed.	1	12	64	77	2.8	0.42
13	13	Gives supportive and immediate feedback to students.	0	0	79	79	3.0	0.00
14	14	Provides enrichment/remediation/reteaching as needed.	8	11	40	59	2.5	0.73
15	15	Models effective communication skills.	2	5	71	78	2.9	0.39
16	16	Prepares appropriate evaluation activities.	3	2	39	44	2.8	0.54
17	17	Displays a thorough knowledge of the subject matter.	0	1	80	81	3.0	0.11
18	18	Incorporates techniques to motivate students.	6	14	46	66	2.6	0.65
19	19	Ensures student time on task.	0	1	78	79	3.0	0.11
20	20	Maintains high standards for student behavior.	0	0	68	68	3.0	0.00
21	21	Demonstrates sensitivity in relating to students.	0	3	75	78	3.0	0.19
22	22	Demonstrates equitable treatment of all students.	1	6	73	80	2.9	0.34
23	23	Overall Rating	0	0	38	38	3.0	0.00

SD  $\Sigma X = 6.27$ . $\bar{X}$  SD = .29



APPENDIX I. GERRY PAGE

**Gerry Page**

**EIGHTH GRADE MATH**

Group Description for Eighth Grade  
Mathematics

(Gerry Page)

1. Age range: The students are 13 and 14 years of age.
2. Ability range: The students are average and above.
3. Typical interest and involvement: The students are very motivated, good communicators, display a lot of interest in their work, and volunteer during oral discussion.
4. Prior relevant material: The class has studied how to identify and classify angles as well as to specify measurement of angles on intersecting lines when the measurement of one or more angles is given.

\*Sample plans collected from DISD  
 Detail varies by faculty consensus  
 See DISD Guidelines (1984)

Teacher Gerry Page Subject 8th Grade Math Period 10:00-10:45 a.m. Room #  Date 4/29/19--

Standard/or TEA Obj.	SIP Objectives	FIND	TELL	DEMONSTRATE	GUIDED PRACTICE	APPLY	EVALUATE
L.S. 13 Identify and classify angles, triangles, quadrilaterals and lines. H.O. 04 Identify and classify lines including special pairs of angles formed by two parallel lines and transversal.		Ask questions about lines and angles.	Today, you will: 1. Write the correct angle measurements for angles created by intersecting lines when given the measurement of at least one angle. 2. List the five kinds of angles on parallel lines and define them. 3. Define transversal.	Use the overhead projector to demonstrate how to calculate angle measurements for two intersecting lines, parallel lines, and a transversal.	1. Orally state the measurements of angles, examples of exterior and interior angles, vertical, supplementary and corresponding angles. 2. Write the correct measurements and the names for all the angles on a worksheet.	Complete a worksheet assignment	A worksheet 118
Materials/Resources: Overhead; worksheets							

Date 4/29/19--Class 8th Grade MathTime 10:00-10:45 a.m.

Please complete the following information and return to the evaluator one day before the scheduled date of the observation.

1. Where are you in the course?

Unit 10, p. 187

2. What outcomes do you expect?

Following the lecture/demonstration the student will write the correct angle measurements for angles created by intersecting lines when given the measurement of at least one angle; list the five kinds of angles on parallel lines and define them; and define a transversal.

3. What teaching methods do you plan to use?

-Lecture  
-Demonstration

4. What learning activities will be observed?

-Discussion  
-Worksheet

5. Are there any particular teaching behaviors that you especially want monitored?

-Communicates effectively with students.  
-Displays a thorough knowledge of curriculum and subject matter.

6. How are you going to know if the students have learned?

-Class discussion  
-Worksheet

7. What special characteristics of the students should be noted?

(none)

## OBSERVER'S FEEDBACK DOCUMENT

OBSERVER'S NAME \_\_\_\_\_

NAME OF EVALUATOR ROLE PLAYER \_\_\_\_\_

NAME OF EVALUATEE ROLE PLAYER \_\_\_\_\_

PREOBSERVATION CONFERENCE	EVALUATEE	EVALUATOR
<b>I. Introductory Phase</b>  Climate (attitude; feelings) Nonverbal Communication Supporting Behaviors Interfering Behaviors		
<b>II. Body</b>  Questions (focusing; probing; clarifying; bridging) Was there two-way communication? (Explain) Were effective listening skills used? (Explain)		120
<b>III. Closing of Conference</b>  Tone of Closing Who Gave Closure? What was the outcome of the conference?		



# Classroom Observation

121

Date: \_\_\_\_\_

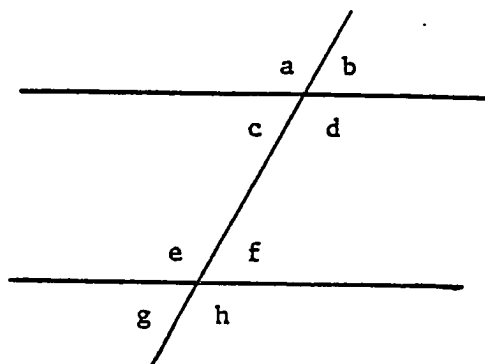
Observer: \_\_\_\_\_

Teacher: \_\_\_\_\_

Subject: \_\_\_\_\_

Time	Observations
<b>Total Time Observed</b>  _____	
<b>Time from total that is actual engaged time</b>  _____	<b>Summary of Observed Lesson</b>  <div style="text-align: right;">                         _____                          Date: ____/____/____                     </div>

Exercises 1-8 refer to the following figure. Line  $m$  is parallel to line  $n$ .

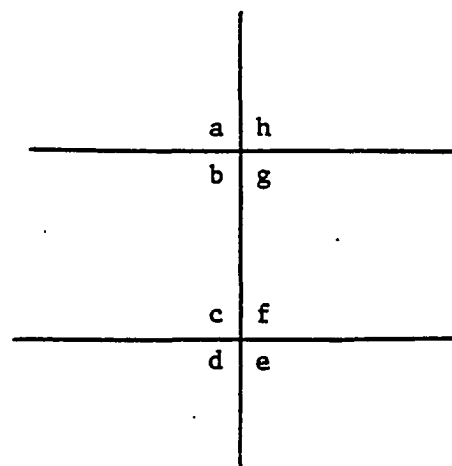


1. What is the  $m \angle d$ ? \_\_\_\_\_
2. Briefly explain two ways you can prove your answer.
  - a)
  - b)
3. What is the  $m \angle a$ ? \_\_\_\_\_
4. Briefly explain two ways you can prove this answer.
  - a)
  - b)
5. What is the  $m \angle g$ ? \_\_\_\_\_
6. Offer two proofs for your answers.
  - a)
  - b)
7. What is the  $m \angle f$ ? \_\_\_\_\_
8. Briefly explain why you are confident that your answer is correct.

Work  
Sample



Questions 9-18 refer to the following diagram.



9. Name two pairs of alternate exterior angles.  
 a)  
 b)  
 How do you know for sure that these two pairs are alternate exterior angles?
10. Name two pairs of alternate interior angles.  
 a)  
 b)
11. Angle a is congruent to which two angles?  
 a)  
 b)
12. Using angles a, b, g, and h only, list the supplementary angles to  $\angle b$ .

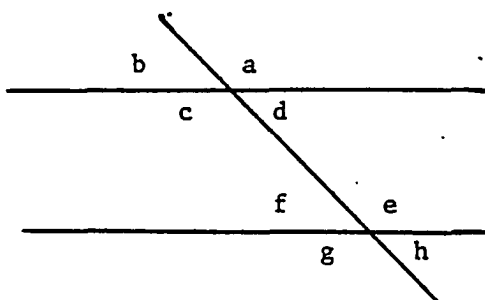
What is the corresponding angle for each of the following angles?

- 13) b \_\_\_\_\_  
 14) f \_\_\_\_\_  
 15) d \_\_\_\_\_

What is the vertical angle for each of the following angles?

- 16) g \_\_\_\_\_  
 17) c \_\_\_\_\_  
 18) d \_\_\_\_\_

Questions 19-23 refer to the following diagram.



Note: The answer that you obtain for each question does not carry over to the following questions!

19. If  $m\angle e = 110$ , what is  $m\angle c$ ? \_\_\_\_\_  
 20. If  $m\angle b = 75^\circ$ , what is  $m\angle g$ ? \_\_\_\_\_  
 21. If  $m\angle d = 50^\circ$ , what is  $m\angle f$ ? \_\_\_\_\_  
 22. If  $m\angle a = 125^\circ$ , what is  $m\angle g$ ? \_\_\_\_\_  
 23. If  $m\angle h = 55^\circ$ , what is  $m\angle f$ ? \_\_\_\_\_

Review Lesson  
GERRY PAGE--GEOMETRY TIMELINE

17	Reinforcements - modeling	124	
1	Morning class - talk while - attendance		Kids talk
	I have checked quiz - your own-respect privacy		Kids settle
	Ok-top score-lowest		Look over grade
	J. Do you know	<u>exactly</u>	Overhead-seated
	B. How	<u>You've describe another...</u>	
	Do you know - what	<u>exactly</u>	
	Let's take	<u>Yes the m is</u>	Kids responding
	Ron, can you cal. mean but for us we can	<u>Right</u>	
	You must come...		
4	Since we didn't do well--more practice--ok	<u>very good job/good job</u>	Handing out papers each row
5	You're going to have to--(example of problem		
	Most critical	<u>great</u>	
	If...then class4A	<u>Right</u>	
	4B	<u>Right</u>	
	C ok, no problem there--I don't know if you realize but we've proven...If...then--congruent--generalization	<u>Right</u>	back
7	Let's use the same procedure to each--What angles do we have... (respond)	<u>Right</u>	New example OH
	What do good now this ok	<u>good</u>	Kids listening
	What $\angle$ 's	<u>good</u>	
	what $\angle$ 's	<u>very good</u>	
	What	<u>very good</u>	
	What $\angle$ 's	<u>good, ok</u>	
10	Now once we've figured out we can solve prob--what about Roger--Mary	<u>that's right</u>	Interacting
		<u>Right--Boy are we</u>	
		<u>cooking with gas now.</u>	$\angle$ 's = $180^\circ$
		<u>Yes indeed</u>	
	Jim--can anyone tell	<u>Excellent</u>	
2	David--It looks as if you've got it now--Please do all of work by yourself.--If you (How do you--)	<u>Good--ok</u>	Monitoring at desks 1 on 1
		<u>Right--Right-Ok</u>	

Gerry Page Timeline - New Learning

00	Let's shift our attention to something new At the end of this lesson I will expect 125 Explains...Does anyone? No but you're awfully close--R. Does anyone Restates supplementary We're going to do dif--parallel lines-- transversal?--what is? Let's stop here--What angles? Now--some of you--others said--who's right? Both of you are	<u>Super</u> <u>Right--ok</u>  <u>Good</u> <u>Good</u> <u>Good</u>	Seated at OH Ex.-Demo  New ex.  Ex. Modeling  Calls on student:
300	Now let's look--how do but I think we need to check--  Now-corresponding 's--(identical)-- In what ways M? (GP-Gave definition)--now-- What $\angle$ -- What-- Now what-- "Mr. Page does this..." did you all catch...?	Yes Great and think you've got it  <u>right--good</u> <u>good, good for you</u> <u>good, you remembered</u> <u>good job</u> <u>Excellent insights</u>	for ex.  Waited for answers  Still using OH
800	Ex of alt. int. angles--explains--now can anyone--all right but you must remember-- John--Now how--ext. angle-- If you were in house--now on this diagram... What Now how...your ex. is correct, but how do we--"trans..."-- Now jot	<u>Exactly very good,</u> <u>Alright, good insight</u> <u>You're <math>\frac{1}{2}</math> right...</u> <u>Yes--good</u>  <u>that's transversal</u>	
1100	these down--what you need to know.-- Now what if...what would be-- tell how you figured--(I guessed)-- right so far--great what else?-- if--what if  Now let's get it all together--we	<u>OK</u>  <u>Therefore</u> <u>Very good--you pulled</u> <u>us through</u>	1,2,3 on OH  kids taking note
1300	have talked about vertical, supp, etc.-- Now remember when we talked about--If you will		1,2,3,4,5,6 on C
1500	Ok, this is your assign today--work out-- if you have??--can you name other-- Ok, mark this--ok, there seems to be no prob--you have about 8 minutes to finish up.	<u>good, good, good</u>	Handing out Monitoring Students ll

APPENDIX J.  
SUMMATIVE TRAINING EVALUATION FORM

TEACHER PERFORMANCE EVALUATION (ISURF)					
TEACHER SER					
(Teacher's Name)		(Years Experience)		(Division)	
(Teacher's Signature)		(Date)		(Evaluator's Signature) (Date)	
Directions: Place a check in the column that best describes the teacher's performance on that criterion.					
CRITERIA			LEVELS OF PERFORMANCE		
The teacher. . . 1. Organizes students for effective instruction.			3	STANDARD 4	5
N/O (0)	N/O (1)	2	3	4	5
Appropriate	In- appropriate	There is little evidence of organizing students for effective instruction.	Inconsistently organizes students for effective instruction.	Organizes students for effective instruction.	In addition to meeting the standard, the teacher uses a variety of techniques to organize students.
COMMENTS:					
2. States instructional objective(s).			3	4	5
N/O (0)	N/O (1)	2	3	4	5
Appropriate	In- appropriate	Does not state instructional objective(s) or tell why it is important to the students.	States instructional objective(s), but does not tell why it is important to the students.	States instructional objective(s) and states why it is important to the students.	In addition to meeting the standard, the teacher makes the explanation relevant to the students.
COMMENTS:					

TEACHER PERFORMANCE EVALUATION (ISURF)					
TEACHER SER					
CRITERIA		LEVELS OF PERFORMANCE			
3. Provides opportunities for student participation.				STANDARD	
N/O (0)	N/O (1)	2	3	4	5
Appropriate	In-appropriate	Does not provide opportunities for student participation.	Intermittently provides opportunities for student participation.	Provides opportunities for student participation.	In addition to meeting the standard, the teacher provides opportunities for <u>all</u> students to participate.
COMMENTS:					
4. Incorporates effective questioning techniques.				STANDARD	
N/O (0)	N/O (1)	2	3	4	5
Appropriate	In-appropriate	Does not incorporate effective questioning techniques.	Intermittently incorporates effective questioning techniques.	Incorporates effective questioning techniques.	In addition to meeting the standard, the teacher uses a variety of levels of questions.
COMMENTS:					
5. Checks for understanding.				STANDARD	
N/O (0)	N/O (1)	2	3	4	5
Appropriate	In-appropriate	Does not check for understanding.	Inconsistently checks for understanding.	Checks for understanding.	In addition to meeting the standard, the teacher provides a variety of techniques to check for understanding.
COMMENTS:					

TEACHER SER		TEACHER PERFORMANCE EVALUATION (ISURF)			
6. Gives supportive and immediate feedback to students.					
N/O (0)	N/O (1)	2	3	STANDARD 4	5
Appropriate	In- appropriate	Gives no supportive or immediate feedback to students.	Inconsistently gives supportive and immediate feedback to students.	Gives supportive and immediate feedback to students.	In addition to meeting the standard, the teacher uses a variety of techniques to give feedback to students.
COMMENTS:					
7. Models effective communication skills.					
N/O (0)	N/O (1)	2	3	STANDARD 4	5
Appropriate	In- appropriate	Does not model effective communica- tion skills.	Inconsistently models effective communica- tion skills.	Models effective communication skills.	In addition to meeting the standard, the teacher is extremely skillful in using a variety of communication techniques.
COMMENTS:					
8. Displays a thorough knowledge of curriculum and subject matter.					
N/O (0)	N/O (1)	2	3	STANDARD 4	5
Appropriate	In- appropriate	Displays an insuffi- cient knowledge of curriculum and subject matter.	Displays a limited knowledge of curriculum and subject matter.	Displays a thorough knowledge of curricu- lum and subject matter.	In addition to meeting the standard, the teacher interrelates topics and/or activities that are taught.
COMMENTS:					

TEACHER PERFORMANCE EVALUATION (ISURF)					
TEACHER SER					
9. Ensures student time on task.				STANDARD	
N/O (0)	N/O (1)	2	3	4	5
Appropriate	In-appropriate	Does not use techniques that ensure student time on task.	Intermittently ensures student time on task.	Ensures student time on task.	In addition to meeting the standard, the teacher ensures at least an 80% success rate for students.
COMMENTS:					
10. Demonstrates sensitivity in relating to students.				STANDARD	
N/O (0)	N/O (1)	2	3	4	5
Appropriate	In-appropriate	Is unresponsive to the needs of students.	Intermittently shows sensitivity to students.	Demonstrates sensitivity in relating to students.	In addition to meeting the standard, the teacher willingly provides extra time for individuals.
COMMENTS:					



APPENDIX K.  
SUMMATIVE TRAINING EVALUATION REPORT  
(COMPUTER BUBBLE SHEET)

**COMPUTER ASSISTED  
TEACHER EVALUATION/SUPERVISION  
CATE/S**

Video (Summative)  
6/87

- Use a No. 2 pencil to complete this form.
- Be sure to fill the bubbles completely.
- Erase cleanly any marks you wish to change.
- Write comments only where indicated.
- Do not fold this form.

NAME: \_\_\_\_\_

[illegible]

	LOW → HIGH					
The teacher ...						
1. Organizes students for effective instruction.	1	2	3	4	5	6
2. States instructional objective(s).	1	2	3	4	5	6
3. Provides opportunities for student participation.	1	2	3	4	5	6
4. Incorporates effective questioning techniques.	1	2	3	4	5	6
5. Checks for understanding.	1	2	3	4	5	6
6. Gives supportive and immediate feedback to students.	1	2	3	4	5	6
7. Models effective communication skills.	1	2	3	4	5	6
8. Displays a thorough knowledge of curr. & subj. matter.	1	2	3	4	5	6
9. Ensures student time on task.	1	2	3	4	5	6
10. Demonstrates sensitivity in relating to students.	1	2	3	4	5	6
11.	1	2	3	4	5	6
12.	1	2	3	4	5	6
13.	1	2	3	4	5	6
14.	1	2	3	4	5	6
15.	1	2	3	4	5	6
16.	1	2	3	4	5	6
17.	1	2	3	4	5	6
18.	1	2	3	4	5	6
19.	1	2	3	4	5	6
20.	1	2	3	4	5	6
21.	1	2	3	4	5	6
22.	1	2	3	4	5	6
23.	1	2	3	4	5	6
24.	1	2	3	4	5	6
25.	1	2	3	4	5	6
26.	1	2	3	4	5	6
27.	1	2	3	4	5	6
28.	1	2	3	4	5	6
29.	1	2	3	4	5	6
30.	1	2	3	4	5	6
31.	1	2	3	4	5	6
32.	1	2	3	4	5	6
33.	1	2	3	4	5	6
34.	1	2	3	4	5	6
35.	1	2	3	4	5	6
36.	1	2	3	4	5	6
37.	1	2	3	4	5	6
38.	1	2	3	4	5	6
39.	1	2	3	4	5	6
40.	1	2	3	4	5	6
41.	1	2	3	4	5	6
42.	1	2	3	4	5	6
43.	1	2	3	4	5	6